SD Airports

Airport Master Plan

Montgomery-Gibbs Executive Airport

Airport Recycling, Reuse, and Waste Reduction Plan

2017

Prepared by:

C&S COMPANIES®

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1.1 Airport Recycling, Reuse, and Waste Reduction Plan Background

The management and disposal of solid waste have considerable impacts on an airport's finances, operations, environmental well-being, and relationship with the community. Its significance has been identified by the Federal Aviation Administration (FAA) and incorporated into recent regulations. Section 133 of the FAA Modernization and Reform Act of 2012 requires airports with a master plan to complete a recycling plan that includes/addresses:

- A solid waste audit
- Feasibility of solid waste recycling
- Minimization of solid waste generation
- Operation and maintenance requirements
- Review of waste management contracts
- The potential for cost savings or the generation of airport revenue

In order to assist airports in the development of these recycling programs, the FAA prepared *Recycling, Reuse, and Waste Reduction at Airports: A Synthesis Document*. This synthesis document outlines types and sources of airport waste and provides guidance on establishing a comprehensive waste reduction and recycling program. On September 30, 2014, the FAA issued *Guidance on Airport Recycling, Reuse, and Waste Reduction Plans*, which provides official guidance for preparing waste and recycling plans as part of an airport master plan, within a sustainability plan, or as a stand-alone document. This guidance has been used in the development of a recycling, reuse, and waste reduction plan for Montgomery-Gibbs Executive Airport (MYF or Airport).

As noted in *Guidance on Airport Recycling, Reuse, and Waste Reduction Plans*, airports with an existing recycling program may not need to complete certain tasks. Given the nature of the Airport as a General Aviation (GA) facility with an existing recycling program, certain elements were scaled accordingly (e.g., a detailed evaluation of potential cost savings or revenue generation was not prepared, but qualitative information is provided).

1.2 Baseline Assessment

Facility Description

As documented in prior Working Papers of the Airport Master Plan, the Airport is a GA facility designated as a regional reliever airport according to the National Plan of Integrated Airport Systems (NPIAS). The Airport is one of 151 regional airports classified as a reliever to a primary airport, and one of only six regional relievers to have more than 400 based aircraft. As noted in Working Paper 3 – *Forecasts of Aviation Demand*, MYF houses 604 based aircraft and experienced 200,668 operations for the year 2016. Additional information regarding the Airport's operations as well as its layout and governance can be found in earlier Working Papers of the Master Plan.

Existing Program, Waste Management Contract, and Operations and Maintenance Procedures

As a GA airport, MYF has a number of waste sources including[1]:

- Terminal area that includes a restaurant. This area typically generates food waste, paper, plastic, aluminum cans, and trash.
- Airport administrative offices, which are within the terminal and produce waste including paper, food, plastic, metals, etc.
- Airfield and maintenance operations where aircraft, vehicle and green waste is generated as well as packaging materials. Foreign object debris (FOD) is often generated on active airfields and can include runway rubber or miscellaneous materials from aircraft and vehicles.
- Tenant-occupied buildings including those on ground leases where various forms of waste are generated depending upon the type of activity conducted there.

The Airport is located within the City of San Diego and is influenced by City codes. In 2007, the City Council approved the City of San Diego's Recycling Ordinance requiring commercial and institutional facilities to recycle. The ordinance mandates that the following list of items be recycled:

- Plastic and glass bottles
- Jars
- Paper, newspaper
- Metal containers
- Cardboard
- Clean food waste containers
- Jugs, tubs, pots, buckets, and toys

In addition to the Recycling Ordinance, the City's Zero Waste Plan was unanimously approved by the City Council in 2015 with an initial target of 75-percent diversion of materials from landfills by 2020, 90 percent by 2035, and 100 percent by 2040. The City's Zero Waste Plan created a framework of strategies to increase the diversion rate as well as to expand on the goals of the Recycling Ordinance.

In compliance with the City's Recycling Ordinance and Zero Waste Plan, departments owned and operated by the City have implemented their own Waste Diversion Plans in order to maximize the amount of recycling at their facilities. The Airports fall within the Real Estate Assets Department

[1] Guidance for generators of waste and types of waste generated provided by FAA Recycling, Reuse and Waste Reduction at Airports: A Synthesis Document, April 24, 2013.

(READ), which is also responsible for its offices, Petco Park and SDCCU Stadium. The current diversion practices for READ include:

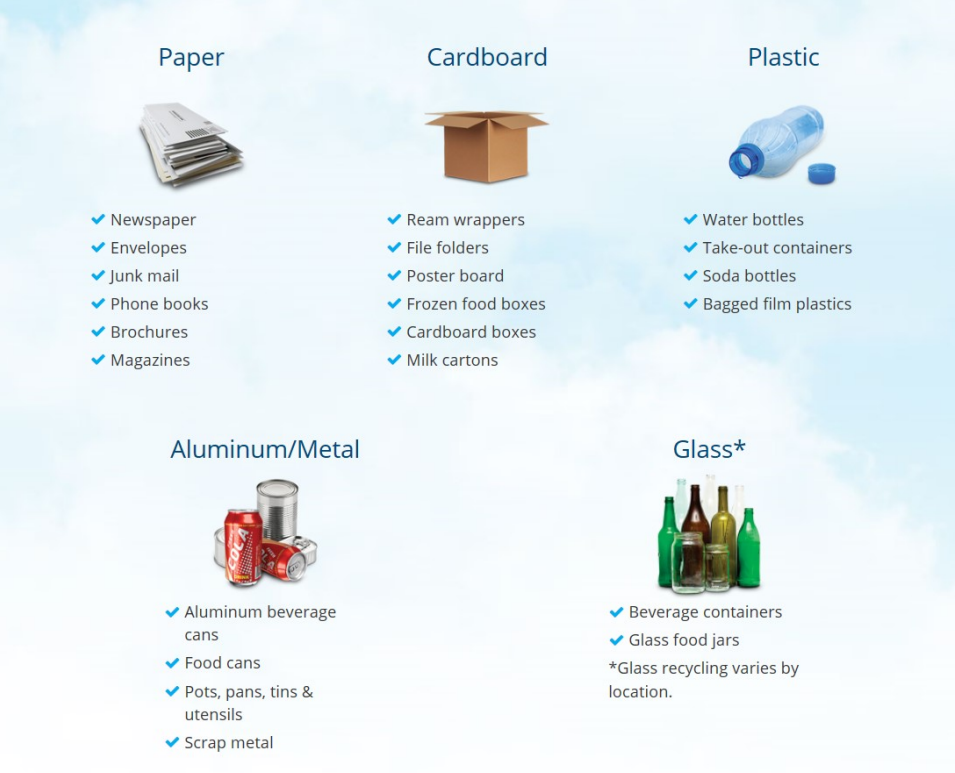
- Dual recycling and trash bins placed in administrative offices
- Properly labelled three- to five-yard recycling bins placed next to trash dumpsters that are emptied once to twice a week
- Separation of airport trimmings from waste collection
- The special attention/handling for disposing of hazardous waste

The City currently contracts MYF's waste and recycling pickups with Republic Services. Trash pickups are scheduled on Mondays, Wednesdays and Fridays with recycling collection occurring every second and fourth Thursday of the month – usually in the mornings. Waste generated by the restaurant is not included in this contract and is handled independently of the Airport.

There are three trash dumpsters and one recycling dumpster served by Republic Services, each three cubic yards in size. Although tenants are responsible for managing their own waste and many have established individual contracts, these dumpsters are available for their disposal. The dumpsters are distributed across the airport property at the Airport Operations Maintenance Garage, Gate 8, the cul-de-sac at Glenn Curtiss and the National Air College (NAC) (where there is another dumpster managed by NAC), and near the Operations terminal building. In addition, there is one 40-yard dumpster used for loose airport waste/debris. The 40-yard dumpster is serviced through the City on an as-needed basis at the request of the Airport. The following photo depicts the location of the 40-yard dumpster at the intersection of Gibbs Drive and Glenn Curtiss Road.

40-yard Dumpster Location
Source: City of San Diego and GoogleEarth

As of July 2017, Republic Services accepts the following in its single-stream recycling program (according to its website):



Allowable Materials
Source: Republic Services

Unacceptable items include:

- Aerosol cans
- Aluminum foil
- Batteries
- Food waste
- Glass (the City of San Diego confirmed that Republic is accepting glass recyclables for the airports)
- Mirrors or ceramics
- Stickers and address labels
- Styrofoam
- Tissue, paper towels or napkins
- Plastic-coated paper
- Wrapping paper
- Waxed paper
- Window glass
- Light bulbs
- Ceramics
- Plastics other than products coded #1 or #2 (this was extended to accommodate plastics #1-7)
- Cookware
- Hardcover books
- Polystyrene foam plastic (even if it has the recycling symbol [e.g., foam coffee cups])
- Plastic bags

Items requiring special attention include:

- Incandescent light bulbs
- Fluorescent tubes
- Computers & Electronics
- Needles or syringes
- Hazardous waste
- Toxic material containers
- Paint
- Yard waste

As noted on the Republic Services website, these items should never be mixed with regular recycling. Disposal requires special handling.

Waste Audit

As part of the master planning process for MYF, C&S Engineers, Inc., conducted a waste audit on October 12, 2017, focusing on waste collected in the three trash dumpsters and recycling dumpster. In preparation for the event, waste was collected from October 5, 2017, through October 11, 2017, along with approximately two weeks' worth of recyclables. Leading up to the audit, multiple bags of both trash and recyclables were collected and stored at the audit site within the Spiders Quonset Hut. Approximately 495 pounds of waste and recyclables were collected. Out of the 495 pounds, a sample of 269 pounds was audited; this included the entirety of the recyclables collected.

Waste and recyclables were divided into 13 categories, each classified as either recyclable, non-recyclable, requires special attention, or "Other," e.g., material types that were not specifically addressed by Republic Services in its classification of materials. The 13 categories included:

Recyclable (indicated with a recycling symbol on all labels during the waste audit)

1. Aluminum beverage cans, food cans, pots, pans, tins and utensils
2. Scrap metal
3. Paper (including newspaper, magazines, catalogs, brochures, envelopes, junk mail, phone books, and office paper)
4. Cardboard (including ream wrappers, file folders, poster board, frozen food boxes, cardboard boxes, and milk cartons)
5. Plastic beverage bottles, take-out containers, bagged film plastics
6. Recyclable glass bottles and jars

Non-Recyclable Materials

7. Food waste
8. Plastic bags, and paper products (e.g., paper towels, napkins, tissues, paper plates, paper cups)
9. Other miscellaneous non-recyclable items (e.g., aerosol cans, batteries, aluminum foil, shredded paper, stickers/address labels, clothing, glass windows, Pyrex, mirrors, and ceramic)

Requires Special Attention (must not be mixed with regular recycling)

10. Materials requiring special attention, including:
    i) Incandescent light bulbs, fluorescent tubes
    ii) Hazardous / toxic / of concern materials (needles or syringes, hazardous waste, toxic material containers, paint, etc.)

iii) Computers and electronics
iv) Yard waste

Additional Categories

11. Wood (boards, planks, etc.)
12. Styrofoam Blocks (recyclable)
13. Rubber Tires

Waste Audit
Source: C&S Engineers, Inc.

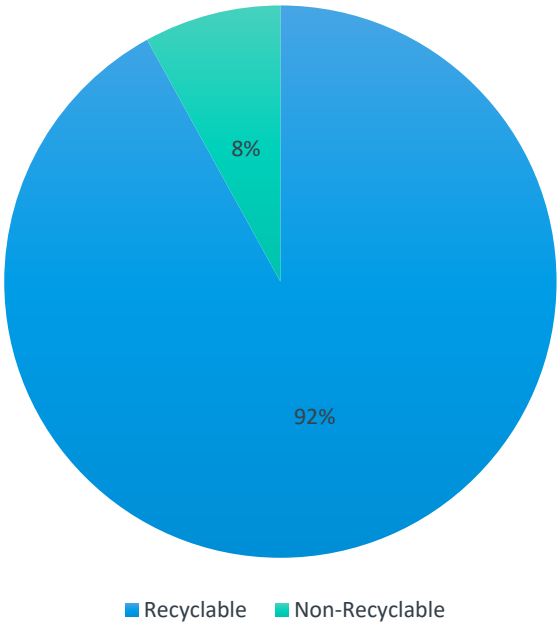
Materials were sorted by weight, beginning with the recycling stream and then followed by a sampling of the trash stream. **Table 1.1 and Figure 1.1** present the breakdown of contents within the recycling waste stream.

Table 1.1 – Weight and Composition of Recycling Stream

Category	Weight (pounds)
1 – Aluminum beverage cans, food cans, pots, pans, tins and utensils	11.5
3 – Paper	12
4 - Cardboard	20.12
5 – Plastic beverage bottles, take-out containers, bagged film plastics	1.1
8 (non-recyclable) – Plastic bags, and paper products	0.8
9 (non-recyclable) – Other miscellaneous non-recyclable items	3.1

Source: C&S Engineers, Inc., 2017

Figure 1.1 – Breakdown of Recycling Stream



Source: C&S Engineers, Inc., 2017

As shown above, cardboard, paper, and aluminum beverage cans make up the majority of recyclables found in the recycling dumpster. The non-recyclable Category 9: shredded paper made up the highest non-recyclable content found at six percent. This may represent a lack of education to employees and tenants surrounding the non-recyclable nature of shredded paper. Overall, the Airport's recycling stream indicated a low percentage of contamination (i.e., non-recyclable materials in a recycling dumpster).

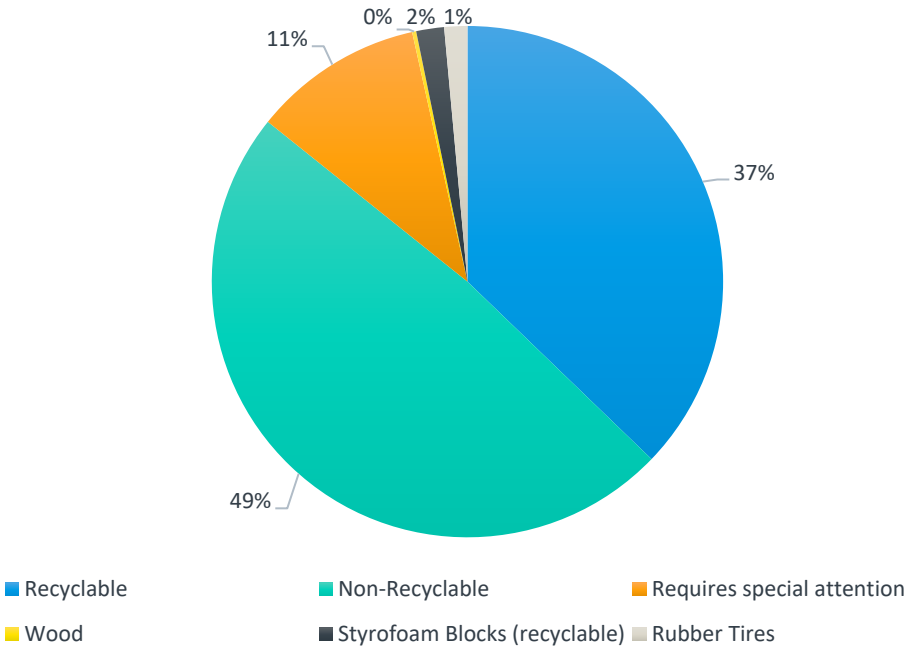
Table 1.2 and Figure 1.2 present the percentage of contents in composition and quantity of trash sorted and recorded during the waste audit.

Table 1.2 – Weight and Composition of Trash Stream

Category	Weight (pounds)
1 – Aluminum beverage cans, food cans, pots, pans, tins and utensils	2.2
2 – Scrap metal	12.9
3 – Paper	10.5
4 – Cardboard	44.12
5 – Plastic beverage bottles, take-out containers, bagged film plastics	11.1
6 – Recyclable glass bottles and jars	5.9
7 (non-recyclable) – Food waste	13.13
8 (non-recyclable) – Plastic bags, and paper products	69.9
9 (non-recyclable) – Other miscellaneous non-recyclable items	30.1
10 – Requires special attention	25.12
11 – Wood (boards, planks, etc.)	0.6
12 – Styrofoam Blocks (recyclable)	4.1
13 – Rubber Tires	3.4

Source: C&S Engineers, Inc., 2017

Figure 1.2 – Breakdown of Waste Stream



Source: C&S Engineers, Inc., 2017

All categories, both recyclables, and non-recyclables, were found in the trash dumpster. Non-recyclable items such as paper towels and other miscellaneous items (categories 8 and 9) made up the majority of the trash content. Cardboard boxes were found in both the trash and recycling dumpster and make up a large portion of waste at the Airport in general. One cause for recyclables found in the trash dumpster would be the limited access Airport staff, tenants, and hangars have to the recycling bin due to it being locked most of the time.

In order to determine an estimated diversion rate for the Airport, the amount of trash collected (over 446 pounds) was compared to the amount of recyclables collected (approximately 49 pounds). Based on this calculation, the current diversion rate is just **5.5 percent**. This rate includes the following considerations:

- Recyclables and trash were collected over different spans of time (trash covered seven days, from October 6 to October 11, while recyclables covered 13 days, from September 29 to October 11). Results were adjusted accordingly.
- This does not take into account the recyclables waste stream's contamination and instead assumes all recyclables collected were diverted from landfills.

It is worth noting that of the trash that was sorted during the audit, 37 percent consisted of recyclable materials accepted by Republic Services. This shows there is great opportunity for increasing the diversion rate and working towards the City's goals.

1.3 Opportunities for Improvement and Potential for Cost Savings or Revenue Generation

Based on the existing recycling ordinance and the efforts put forward by the department's Waste Diversion Plan, several opportunities for improvement are provided below, many of which have the potential for cost savings and/or revenue generation. Due to MYF's high waste production, the following suggestions focus on diversion from landfills and potential waste minimization.

Diversion from Landfills
The Airport should continue its focus on diversion of waste from landfills. Specific opportunities for improvement are listed below:

- Increase Availability of Recycling Receptacles – Although there are recycling bins available in offices, there are no labels indicating the materials accepted. Clearly labeled recycling bins should be placed adjacent to trash cans to encourage recycling; this is particularly important in areas near concessions (the restaurant or vending machines). The City should consider including trash receptacles only in centrally located areas to promote recycling whenever possible. In addition, it was noted that the recycling dumpster is currently locked, which can deter recycling by tenants. The City should reevaluate this decision and look into adding additional recycling dumpsters throughout the airport property since there is currently only one.
- **Expand Diversion Efforts via Additional Recycling Options** – The City should consider implementing a composting program at the Airport, potentially partnering with the restaurant for maximum potential. In addition, the City should review the materials collected in the trash stream for opportunities to generate revenue. For example, the rubber tires may have a resale potential. Lastly, Airport management should begin collecting shredded paper separately and work with the Environmental Services Department (ESD) for collection (in prior coordination with ESD, it was noted that they have a contract with Shred-It to handle such recycling).
- **Surplus Property Donation** – Airport management should take advantage of the City's surplus property and internal redistribution program, whereby obsolete furniture and other materials can be listed on a city-wide intranet system (i.e., a program similar to Craigslist).
- **Expand upon Education and Awareness Efforts** – The department's Waste Diversion Plan has already made progress in this area. READ and the City overall should continue to emphasize education and awareness regarding both waste minimization and recycling. Some potential strategies to consider based on other airports' initiatives include:
    - Circulate an educational piece and post signage on what is and is not acceptable in the recycling stream. An emphasis should be placed on shredded paper, which many are disposing of in the recycling dumpster. Employees should be encouraged to minimize shredding unless absolutely necessary due to confidentiality concerns (see related item above).
    - Provide Training for Airport Employees – Develop consistent language and materials to train employees on the recycling program procedures to minimize errors and contamination between trash and recycling. Include this in any new employee orientation or onboarding.
    - Implement an Awards Program – Some airports have established tenant and/or employee awards programs to incentivize involvement in recycling. This could be as simple as conducting random walk-throughs of the terminals, administrative areas, etc., and distributing certificates or gift cards to any businesses/employees who are observed recycling or taking action to reuse/reduce materials like packaging.

- **Reuse Materials** – The Airport should continue to leave grass mowings in place and identify other potential waste streams generated through maintenance activities with potential for reuse/salvaging.
- **Establish Minimum Construction & Demolition Recycling Target** – Many airports have established targets that must be met by their contractors, for example, 75 percent of C&D materials must be diverted from landfills via recycling, reuse, or repurposing. The Airport Authority could also require that the contractors track and report on the diversion efforts as well as where the materials are being transported to and/or how they are being reused/repurposed.
- **Promote Recycling on Airport Property** – Tenants and hangars with access to the various dumpsters should be made aware of the Airport's waste and recycling goals.
- **Require Recycling on Airport Property** – An airport's Rules and Regulations, which apply to all tenants and users of the facility, is an opportunity to require recycling. For example, the following language could be included; "All tenants and subtenants shall recycle acceptable materials in accordance with the City of San Diego Recycling Ordinance." The Airport does not currently have published Rules and Regulations, but may consider this in the future.

Waste Minimization

The Airport should consider the following efforts aimed at reducing waste, which can contribute to a greater diversion rate:

- Assess materials procurement and identify opportunities for bulk purchasing to reduce packaging materials and cardboard. The City has an Environmentally Preferred Purchasing (EPP) policy in place (Administrative Regulation 35.80) but it is unknown if all Airport staff are aware of and following its guidelines. (A detailed analysis of current procurement methods was not conducted.) The current policy includes the following, which would contribute greatly to waste minimization if not already incorporated at the Airport:
    - Prohibits purchasing of bottled water (without a waiver) and expanded polystyrene foam food service ware.
    - Specifies 12 criteria that should be considered when making purchasing decisions; many of these will promote waste minimization/recycling including:
        - Biodegradable
        - Compostable
        - High-recycled Content
        - Recyclable
        - Repairable
        - Reusable
- Require concessionaires and airport businesses to adhere to the City's EPP policy (currently, there is one restaurant, but this measure could be included in future Rules and Regulations).

Waste minimization efforts can potentially reduce costs incurred by the City. For example, reducing the amount of materials disposed of in the 40-yard dumpster will decrease the frequency of required pick-ups, which occur on an as-needed basis.

1.4 Conclusion

The Airport has shown great initiative by implementing the practices set forth by the department's Waste Diversion Plan such as having recycling bins located next to trash bins in administrative offices and in the terminal building. Recycling efforts can be improved by unlocking the recycling dumpster and allowing tenants and hangars to access the bin as easily as their access to the trash dumpsters. Additionally, through improved signage, and enhanced employee awareness MYF can significantly increase their diversion rate. By implementing these initiatives, the Airport would be assisting the City with their overall recycling goals as well as maintaining the Zero Waste Plan targets.