

## Appendix 2 Survey Response Summaries

## ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary

### Total Response Count – 36 Complete Surveys

#### Your Information

1) About You [Results redacted]

Prefix:  
First Name\*:  
Last Name\*:  
Title:  
Department/Division:  
Email\*:  
Phone:

#### Airport or Organization

2) About Your Airport or Organization [Results redacted]

Airport or Organization\*:  
Airport Identifier:

#### Case Study Invitation

Are you interested in having your airport's practices described in a case study?

*This would require one 60-minute telephone interview in September 2017. Case study airports will be asked to review associated text prior to publication.*

*Airport participation in this survey and the interviews will provide valuable information and contribute to a central knowledge base on this important topic. We are interested in hearing from airports of all sizes and locations and with all forms of waste management programs.*

<i>Response</i>	<i>Count</i>
Yes	19
No	17
Count	36

## ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary

### Your Airport's Waste Management Program

#### 3) Please describe your airport's waste management program in a few sentences.

Airport environmental staff works closely with food concessions, tenants and janitorial staff to improve waste management throughout all operations. New receptacles were installed with the opening of the new terminal, improving the convenience and accessibility of recycling for passengers. Compostable materials are back-end sorted at a/by a local MRF and taken to a nearby Industrial composting facility, where they are transformed into nutrient rich compost and fertilizer.

All solid waste is sorted into 3 streams and collected by a local waste contractor: mixed waste (sorted at the recycle facility if clean enough); single stream recycling (always sorted); food waste (used for biofuel)

Collection of comingled recyclables into public area and tenants by the airport subcontractor. Collection of comingled recyclables and organics into concessionaires, and head office by the airport subcontractor. Food donations offered to all restaurants. Regular employee training.

Compliance driven. Basic public-area recycling of items in a single stream. Airport Authority personnel manage all waste on the facility except checkpoint collections by TSA. Airport Authority holds dumpster contracts on behalf of all tenants.

Currently, the waste management program is typical and does not include a waste management plan. The airport manages waste via two trash compactors located within the terminal and trash receptacles located throughout the airport. A separate receptacle is located at the airport's airfield maintenance facility. Recycling at the airport is not comprehensive. It includes single-stream recycling with recycling receptacles placed throughout the airport and concourse. Recycling collection consists of two 4-yard dumpsters and one 8-yard dumpster for airport staff and tenant use.

Decentralized program where tenants collect and transport their own trash/recycling. City has contracts to store/haul single stream recycling (plastics 1-7, glass, paper, metals), office paper for shredding, and old corrugated cardboard (handled through two direct vendors and taken to 3 materials acceptance facilities). Areas serviced by City include the terminal public spaces, security checkpoints, Division of Aviation (DOA) warehouse and maintenance shops, and DOA office spaces. Trash from the same areas is collected and hauled by DOA staff.

General paper, cardboard, glass, metal, restaurant grease collection both land-side and air-side.

Manage waste in the most environmentally preferable manner possible. Management methods ranked in order of preference: Waste reduction and reuse waste recycling, composting of yard waste and food waste, resource recovery through municipal solid waste composting or incineration, land disposal that produces no methane or which captures methane for energy production, and land disposal without methane recovery

Separate trash and recycle waste streams; recycle is mixed stream

Single stream for off-site sorting/recycling

Solid waste is managed by the airport in three primary locations - pre-security, post-security, and tenant/airlines. Co-mingling recycling is provided within all areas operated by the airport. Tenants and concessionaires are responsible for waste management within their spaces.

### ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary

#### 3) Please describe your airport's waste management program in a few sentences.

Terminal and office recycling programs have been in place for years and have been expanded when warranted to keep tons of paper, plastic and aluminum generated by airport facilities out of the landfill; with the added benefit of reducing operational costs. Other materials such as batteries, toner cartridges, waste oil, tires, scrap metals, electronics, asphalt, carpet, and wooden pallets are also recycled or repurposed.

The airport authority collects the waste and recyclables within the secure areas of the airport. Waste Management (local waste provider under franchise agreement with the City) drive the airport-owned waste truck to transfer station for waste disposal. The airport collects and hauls most of the recyclables to recycling centers.

The Airport Authority was created in order to address the region's long-term air transportation needs and to manage the day-to-day operations of the Airport. The Airport serves as the gateway in and out of the city, providing service to millions of travelers. The Airport is a dynamic environment with a constantly changing waste stream, and there was no exception made due to the increase in passengers. New sustainability plans were added to an established portfolio of environmental programs that include waste reduction in many different forms. The most significant accomplishments are the addition of two new components to the Airport's waste Food Waste Management Program, namely, the collection of post-consumer food waste and the donation of edible food. Other important developments include a new hazardous waste storage facility, the addition of 2.2 megawatts of photovoltaic solar power, increasing the capacity of our air conditioning condensate (water) capture and reuse program, and renewal in Airports Council International's "Airport Carbon Accreditation" (ACA) program at Level 2 status (Reduction & Carbon management towards a reduced carbon footprint) .

The airport controls the majority of the airport waste, providing service under their contract agreement. There is no additional cost to the tenant for this service. The waste is picked up by a third party contractor and the recycling is serviced by the city. Airlines use our waste collection locations. Tenants have their internal staff, but the majority of the time contract the custodial function of their operation to a third party.

The airport currently relies primarily on source separation of compostable and recyclable materials to achieve landfill diversion of our solid waste. Also, the airport's Five Year Strategic Plan establishes a number of Zero Goals including the achievement of zero waste generation by a determined year. The airport is also developing a Zero Waste Plan which will identify the means and methods for achieving the Zero Waste goal. We expect that enhanced source separation and avoidance of non-recyclable materials in our procurement processes would be major elements in our Zero Waste plan.

The airport generated about 14,000 tons of solid municipal waste in 2016. Our recycling/composting/food donation programs are not mandatory. The Airport has installed infrastructure to capture recycling, composting, plastic film, and food donations.

The airport has a robust waste and materials management program focused on diverting materials from the landfill through recycling and reuse opportunities. The Port Authority has made vast strides in reducing waste and introducing innovative and creative solutions, thanks in large part to a decade-long partnership with a local University's Community Environmental Services. Through this program, student consultants work for the Port in one- or two-year terms and gain experience solving real-life waste management problems.

## ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary

### 3) Please describe your airport's waste management program in a few sentences.

The Airport has a waste management system in the terminal designed to divert recyclable materials from landfills and to reduce contamination in recycling.

The airport has both a waste management and recycling program. We attempt to follow the 3Rs.

The airport has various strategies of waste management. We are in the midst of revamping our passenger (customer-facing) recycling program. We have a fairly successful tenant (Airport Authority) recycling program. We are starting a compost program for concessionaires. We have a food donation program for concessionaires.

The airport recycling program is led by tenant initiative. Our concessions tenant provides a few recycle containers for use at the loading dock. Cardboard is the primary consumable that we recycle. Both the airport and concessionaire collect cardboard and keep it sorted to pick up.

The airport utilizes a small Waste and Recycle staff to operate a single stream recycling program which is free of charge for tenants. Trash is managed by a team through contract in which material is landfilled.

The airport's centralized waste management program has received industry recognition by providing a comprehensive set of waste disposal and diversion (i.e. reduction, reuse, recycling, and composting) options to employees, tenants (terminal and airfield), and travelers. Our Solid Waste Management Plan (SWMP) complies with FAA recycling plan guidance and describes our program history, identifies waste diversion goals, and recommends additional strategies increase waste diversion. Airport staff are currently implementing SWMP recommendations and evaluating near and long-term capacity enhancement options in response to significant recent growth and physical space constraints at key airport locations.

The airport's waste management program encompasses recycling among airport's tenants and airport board activities, and solid and hazardous waste management through a solid network of vendors.

The airport's waste management program focuses on increasing our landfill diversion rate. To achieve that, we provide trash and recycling bins in all terminals and coordinates with food and beverage concessionaires to recycle food waste where infrastructure allows them to do so.

The Airport's waste management program provides various entities materials for beneficial reuse to minimize the impact to the environment and reduce the waste destined to the landfill.

The Port Authority maintenance handles the waste management program at the airport. Recycling is required per county ordinance and Port Authority initiative.

The Port Authority manages recycling and solid waste collection at the airport from one terminal and 3 other buildings (solid waste and recycling at other buildings and terminals are controlled by third parties). The Port Authority manages solid waste and recycling in compliance with the state's Solid Waste Management Act, local county solid waste flow control laws, the state's Mandatory Source Separation and Recycling Act, and the local jurisdiction's recycling requirements.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**3) Please describe your airport’s waste management program in a few sentences.**

The waste management program at the Airport is decentralized with the Department of Aviation overseeing a contract for the Terminals and airport administration buildings. The airlines, ARFF Station, Fixed Base Operators, and other tenants have separate waste management contracts that do not have the Department of Aviation oversight beyond demand that they follow regulations and are encouraged to be sustainable partners. The Department of Aviation offers recycling at all facilities and at the Terminal but only currently offers composting at the Terminals from back of the house operation from the concessions.

The waste management program at the Airport is decentralized with the Department of Aviation overseeing a contract for three Terminals, airport administration buildings, ARFF stations, a portion of the concessions, and some parking lots. An additional terminal, the airlines, and most non-Terminal tenants have separate waste management contracts that do not have the Department of Aviation oversight beyond demand that they follow regulations and are encouraged to be sustainable partners. The Department of Aviation offers recycling at most facilities and at the Terminal but only currently offers composting at the Terminals from back of the house operation from the concessions.

There is a comprehensive waste management program at the Airport that includes: in-house collection of recyclable materials generated from other airport offices governed by the Authority, common-use recycling containers and bins in airport terminals, airfield, and landside areas, source reduction through the purchase of recycled products and material reuse, implementation of airlines' and concessionaires'/tenant's own recycling programs and reporting of data to the Authority, and public outreach. Materials are picked up by service providers such as the Sanitation department for processing offsite. The Authority works closely with airport stakeholders and other City departments to improve, expand, and develop waste management activities to help the City achieve the new, citywide goal of zero waste by a determined year and meet local and state mandated waste diversion targets.

We have a total waste management plan at the Airport. We work primarily with one vendor for landfill waste, composting, recycling and waste diversion programs.

We have an informal program that focuses on paper waste from our Fire, Admin and Maintenance Facilities. We have a staff of 50+.

We recycle paper, cardboard, glass, cooking oils from the restaurant. We also reuse as many building materials as possible, such as milled asphalt, and building materials if possible.

**4) Does your airport have a recycling program or employ other waste management strategies?**

<i>Value</i>	<i>Count</i>
Yes	33
No	1
<i>Total</i>	34

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<b>5) In what ways have your recycling/waste management efforts been successful?</b>	
<i>Value</i>	<i>Count</i>
High or increased management support	23
High or increased landfill diversion	22
High or increased recycling capture rate	22
High or increased number of material types recycled or composted	21
High or increased employee participation	21
High or increased concessionaire/retail participation	21
Low or reduced total waste generation	14
High or increased airline participation	13
High or increased passenger compliance	12
Low or reduced contamination rate	9
Other:	4
Food Recovery Program	
Increased waste material reduction and reuse. High passenger and employee satisfaction with program.	
We brought our diversion rate to up about 21.5% for a two year period, but since, we have been struggling with contamination issues and rejected loads. We fell to 8.0% in two years ago and are rebounding with 9.2%. We are applying multiple strategies to meet and exceed our previous high.	

**6) (Optional) Please explain your answer.**

A Mandatory recycling law requires large venues to recycle all organics waste. The Airport participated in a pilot program prior to the mandatory law coming into effect to test and analyze pre-consumer food waste collection and diversion activities. Concessionaires at one of the Airport's Concourses are required to recycle commingled recyclables and pre-consumer food waste. To have a successful program, Airports Recycling Coordinator works closely with restaurant managers to ensure each employee receives recycling training. Airports Recycling Coordinator performs weekly waste inspections to monitor restaurant compliance. Concessionaire's lease states proper trash/recycling disposal as a performance standard. Improper recycling can result in a performance standard violation and a consequential fine to concessionaires. Constant monitoring and training of concessionaires results in increased participation, reduced contamination rate, and increased recycling rate. Airport Recycling Coordinator has also presented to airport employees on the Airport's recycling program and the importance of recycling. These presentations proved immensely helpful because of the dialogue that stemmed afterward. Many airport employees were under the assumption that only white paper could be recycled. Many airport employees pointed out that custodial staff were emptying trash and recycling bins into the same container. As a result of these presentations, Recycling Coordinator and Sustainability Coordinator worked with custodial staff to fix the issues brought up. Custodial staff began using a double barrel cart to ensure that recycling and trash were not intermixed. In addition, custodial staff are instructed to use different color bags (white/clear for recycling, black for trash) to keep materials separate.

Airline participation has been inconsistent. Although many airlines separate recyclables on board aircraft, the separated materials are often placed in the garbage when they leave the aircraft.

All of the City's trash is diverted via waste-to-energy facilities or recycled, including the Airport's waste, which would equate to 100% diversion from landfill. Still, we are working on reducing the carbon impact of incineration; reducing waste generation (including liquid contamination); and improving customer and employee participation in recycling through signage and new paired bins at checkpoints.

As an alternative to food waste taking up valuable space in local landfills, the Authority decided to collaborate with one food service provider to collect coffee grounds and fruits for composting through the City's Composting Facility. Later, the Airport's program expanded to include 40 restaurants and coffee shops at the airport that were collecting and composting all their pre-consumer food waste, not just coffee grounds and fruit. This marked the beginning of the Authority's Food Waste Management Program "a collaboration with the City, the Airport's janitorial service provider, and the Airport's waste hauler. By the end of 2015, three prep kitchens, the Airport's United Service Organizations (USO) Facility, and three of the Authority's own breakrooms were participating in the program, sending 320 tons of pre-consumer food waste to the Composting Facility. The Airport's Food Waste Management Program sought to reduce the amount of food waste being generated by initiating a program to donate edible food items before they need to be managed as waste. Food not eaten and allowed to spoil may be waste, but food that is eaten is a meal. Ensuring that food items are donated, rather than wasted, further conserves natural resources, improves environmental quality, lessens the burden on the Authority's financial resources, and improves the well-being of airport employees, tenants and the community. A team worked with the Airport's six main concessionaires, a logistics company, the local food bank, the Airport's janitorial service provider, and other non-profits including Feeding America to donate food as meals to local communities (saving the community approximately \$100,000 by providing nearly 5,000 meals). In the process, the team realized there was a need to be filled that was more local and closer to home, right at the Airport itself "the USO Neil Ash Airport Center.



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**6) (Optional) Please explain your answer.**

As indicated above, landfill diversion (recycling, etc.) is not mandatory at the Airport. However, through infrastructure and education/training, the Airport has increased the landfill diversion every year over the last two decades. Upper management has supported the programs associated with the Airport's Sustainability initiatives.

Awareness increases each year.

I would not say the program is successful yet. Though we are working on process improvements and problem solving to address contamination rates and participation rates.

It is been our experience that when the waste diversion program has a formal program, consistency and participation are definitely improved.

Our Airport Authority recycling program for paper, cardboard, cans and bottles, and batteries and lightbulbs is fairly successful and has high employee participation. Our food donation program is fairly successful as well.

Renewed efforts to increase recycling throughout the facility began in 2010 with the assistance of the City's environmental services department.

The Airport began our passenger recycling program over a decade ago and has steadily increased the amount of pounds of material collected per passenger each year, subsequently decreasing the amount of solid waste produced per passenger as well. Solid waste generation per passenger has decreased by 13 percent. The amount of recycling (excluding construction and demolition waste) has nearly tripled. The Department of Airports has received more than \$131,000 in cardboard recycling rebates over the past 10 years

The Airport has focused on source separation of solid waste by providing multiple waste-designated containers for depositing various types of waste in the terminals and the Airport offices and other work areas. We have also encouraged concessionaires, airlines and other tenants to engage in source separation of solid waste. Based on these efforts we have been able to achieve 57% landfill diversion of our waste, including 33% diversion to waste composting facilities.

The Department of Aviation has not increased our oversight of waste management activities in the past five years. Resources and funds have been recently allocated to increase oversight during future years. The past five years the Department of Aviation have generally maintained consistent waste and diversion totals.

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Virtually all waste streams are captured for diversion/recycling. We are currently working to improve our capture rate through improved source separation. We have room for improvement with food waste, guest/passenger compliance, and airline participation.

We have seen positive interactions for all of the above except a decrease in total waste generation.

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**Drivers**

<b>7) Why did your airport establish its waste diversion program? Select all that apply.</b>	
<i>Value</i>	<i>Count</i>
To address environmental impacts	31
To reduce costs	19
Required	14
Requested by employees	6
Requested by food and beverage/retail tenants	6
Requested by passengers	4
Requested by airlines	3
Other:	9
City Goal	
City Initiative	
Good stewardship	
Mayor 's Office	
Mayor 's Office	
Part of Environmental Management System	
Provincial and municipal directive	
Resource conservation, set example for environmental stewardship	
To improve recycling	

## ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary

### 8) (Optional) Please explain your answer.

Main drivers for establishing the waste diversion program were compliance with the City's Green Vision goal of zero waste to landfill by 2022, and LEED silver certification for the new Terminal opening over 5 years ago.

I would say there is a public and corporate expectation; though not 'requested' by the public or tenants.

Implemented in the 1990's under the condition that it was the right policy to pursue.

It is a tenant initiated program.

Recycling has been required by law since three decades. In addition to complying with state statutory requirements, the Port Authority has a policy that contractors recycle 75% of certain demolition debris.

The Airport Waste Reduction Team is a multi-stakeholder group that helps to coordinate and guide airport-wide waste reduction efforts. This group, meeting quarterly, took the place of the Authority's Solid Waste Reduction Team, and includes a larger variety of attendees with broader goals. The group comprises representatives from a variety of Authority departments, our waste service provider, our janitorial services provider, our universal and hazardous waste contractor, and SANCO who serves as a mediator between airlines and the Authority. The main team goals contain increased communication and collaboration between partners, identifying new program opportunities, guide program design and implementation, and sharing best practices. In 2018/19 the Authority will draft an Airport Zero Waste Plan to eradicate nearly all of the waste streams that feed into landfills. This plan will align with the City's new waste reduction targets and will help the Authority to understand and control the myriad of waste streams that are produced at the Airport. The Airport Waste Reduction Team will be the primary implementer of the Airport Zero Waste Plan.

The City has a zero waste policy and program in place. The airport is owned by the City so we are part of that plan. The waste diversion plan is part of the overall sustainability goals of the airport.

The City implemented a waste diversion rate of 40% by a determined year, which required a planned approach to reducing waste.

The cost of recycling and other landfill diversion methods in the city metro area is quite high. The cost of the landfill in comparison is quite low. All the initiatives in the landfill diversion at the airport have been created with the airport's increasing awareness of the environmental impact an airport has on the community. The airport has created and implemented several sustainability initiatives of which landfill diversion is one of the objectives. It is strongly supported by upper management and employees. Several of the concessions have sustainability in their business model and are quite supportive of the programs. Passengers have voiced their concerns over the ability to recycle. The airlines are slowly coming around to the PR advantage of recycling. A few airlines such as Southwest have taken the challenge quite seriously.

The Department of Aviation is encouraged by the Mayor's Office to take action to achieve sustainability goals and the Department of Aviation wants to encourage sustainability (reduce our environmental impact) and take advantage of cost savings.

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**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**8) (Optional) Please explain your answer.**

The State and the Board of Supervisors of the City and County have established minimum landfill diversion requirements of 50% which is also slated to increase gradually over time. The Airport Commission is also keenly focused on minimizing the environmental impact of the Airport including the generation and landfilling of solid waste.

Waste diversion/recycling was originally initiated due to the waste management contract implemented via the City. The program was expanded at the Airport years back to address environmental issues and with support from a City-wide sustainability initiative.

We do get requests from passengers to improve our recycling program. We also get recycling requests from employees. I believe those are reasons we invest resources into our programs, but I believe addressing environmental impacts is probably the reason why we established a program.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>9) Which of the following affect or influence your airport's waste management program? Select all that apply.</b>	
<i>Value</i>	<i>Count</i>
Airport initiative	27
State mandate or requirement	14
City initiative	13
City mandate or requirement	10
County mandate or requirement	9
Airport mandate or requirement	9
Federal mandate or requirement	9
State initiative	7
State incentive	6
County initiative	6
County incentive	4
City incentive	3
Other state program	2
Other county program	2
Federal incentive	2
Other city program	1
Federal initiative	1
Other Federal program	1
Other:	4
Boma best and ISO 14001 certification	
customers, tenants, infrastructure, budget	
Port Management and goals.	
Tenant initiative	

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**10) (Optional) Please explain your answer.**

Same as previous explanation.

State laws require large venues to recycle commingled recyclables and organic waste. In addition, the Solid Waste Authority mandates businesses to recycle commingled recyclables and organic material. Airports has also set a landfill diversion rate goal of increasing our waste diversion rate to 35% or greater.

State requirement: Integrated Waste Management Act of 1989, 50% landfill diversion and 75% recycling goal by 2020. City initiative: zero waste to landfill by 2022

State taxes and county fees apply to MSW disposal, recycling and organics costs exempt. State agency diversion requirements, and county initiatives to improve diversion efforts.

The Airport's program is influenced primarily via our own established goals and initiatives. However, we're also influenced by local city solid waste jurisdictional authority, county and state requirements/initiatives, and Federal requirements via FAA recycling plan guidance.

The City initiative began the process requiring improvement to reduce waste and increase diversion. This began the process of a formal "Solid Waste Management Plan", a road map to reach our goal.

The County "green print" policy required initiatives to reduce environmental footprint.

The Mayor's Office published a City-Sustainable document that strived for action and within that framework the Department of Aviation committed to sustainability. A few years ago, the Department of Aviation posted a goal of 50% waste diversion.

The Mayor's Office published a state-Sustainable document that strived for action and within that framework the Department of Aviation committed to sustainability. In 2012, the Department of Aviation posted a goal of 50% waste diversion.

The primary driver for the landfill diversion at the Airport is the Airport itself and the desire to be more environmentally sustainable.

The State Department of Environmental Quality 2050 Materials Management Vision, Airport Rules

The State does not currently have policies that encourage recycling, with the exception of the \$.10 bottle deposit. We do have an airport sustainability program, and one of the established goals is to increase recycling and landfill diversion.

We dispose of wastes in accordance with all applicable rules. Beyond that the recycling component is voluntary.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**Challenges**

<b>11) Which of the following are or have been obstacles to your program's success? Select all that apply.</b>	
<i>Value</i>	<i>Count</i>
Passenger participation	20
Concessionaire/retail compliance	18
Security regulations	17
Airline compliance	17
Costs	17
Airport employee compliance	14
Janitorial contract(s)	13
Availability of food composting facilities	12
Airport management / Airport administration	11
Material markets	10
Availability of green waste composting facilities	9
Availability of recycling facilities	8
Ability to comingle recyclables	7
City regulations	4
State laws	2
None of these	2
Food donation	2
Other:	11
Failure to implement existing policies	
Infrastructure, waste hauler issues, and space constraints; operational constraints	
Limited space for dumpsters	
Limited space for dumpsters	
Liquid collection units at security checkpoints	
physical space constraints at waste collection/storage/disposal locations	
recyclables sorting by tenant	

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**11) Which of the following are or have been obstacles to your program's success? Select all that apply.**

Security/logistics in design with stormwater drainage requirements in some areas

Space for waste facility, availability of tenant storage space, Tenant lease structures, Corporate policies for tenants, enforcement/compliance.

training of janitorial contractors ' staff

Understaffed custodial/maintenance department; city procurement processes



**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**12) (Optional) Please explain your answer.**

A significant source of waste is found pre-security. Recycling costs more here and savings aren't realized. Janitorial staff contracts do not often account for recycling as well as trash. Concessionaires may not have room to store food for donation before it gets picked up. Historically, passenger lack of understanding or desire to recycle has made recycling contaminated and led to decline and willingness of tenants to support recycling. There are not very many composting facilities or composting haulers in our area.

Airline, concession/retail tenant, and passenger challenges "basic diversion efforts, contamination. TSA security directives have created operational/logistical restrictions preventing the movement of diverted materials from points of generation to collection areas.

City regulations = specifically pertaining to city procurement processes for obtaining vendors/equipment/supplies

Historically, there has not been support from airport management in expanding waste management and recycling. There has also been cost and resource issues in the past.

Janitorial staff are often seen mixing waste streams.

Limited space for managing waste materials at the Airport and in leased tenant spaces. At the Airport, the cost for managing waste is embedded in tenant leases so it is difficult to make a financial argument to tenants to divert materials. With our food donation program we've had challenges working with interested tenants who had to have Corporate attorneys approve participation and agreements. Many airlines are reluctant to do anything outside their official agreement with the airport.

Overall adequate support from Airport Management and the County. Prior waste-hauling contracts impacted recycling in a negative fashion (lack of collection data)

Recycling has not been a priority and has not been fully vetted for options in our community.

Recycling is quite expensive in the State in light of the low tipping fees at the landfill coupled with currently low market rates for the commodities. Since recycling is not mandatory at the Airport, installing recycling/composting/food donation programs entails a lot of coercion, education, and oversight. This includes continued solicitation of key stakeholders such as airlines, janitorial staff, and concessions.

Regulations/requirements typically haven't been obstacles at the Airport since few directly affect our programs and overhead obligations are minor. However, program success is highly dependent on participation and effectiveness of concessionaires, airlines, and janitorial contractors and passengers. Reaching these audiences with key messages that drive behavior change requires constant effort and clear, consistent messaging.

Seasonality (e.g. variable material flows and volumes at different times of the year).

Space for recycling bins into restaurant is a challenge.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**12) (Optional) Please explain your answer.**

The Department of Aviation does not have recycling bins pre-security because of the use of explosive resistant trash cans. The waste contract doesn't have clear Department of Aviation ownership and accountability has been lowered as a result. Passengers contaminate refuse containers and the outdoor space surrounding the Terminals is limited and refuse containers and compactors have a lower priority making it difficult to find recycling, composting, and grease storage locations which may also detract from staff usage.

The Department of Aviation does not have recycling bins pre-security because of the use of explosive resistant trash cans. The waste contract doesn't have clear Department of Aviation ownership and accountability has been lowered as a result. Passengers contaminate refuse containers and the outdoor space surrounding the Terminals is limited and refuse containers and compactors have a lower priority making it difficult to find recycling and composting locations which may also detract from staff usage.

TSA does not allow liquid waste disposal stations to be placed close to the security checkpoint where passengers normally dump their liquids. Instead, liquid waste disposal stations are placed before passengers enter the security line. Passengers are focused on getting in line and forget to recycle and dump their liquids before entering line. This results in lower recycling rates. Some airport employees did not see recycling as important. Many did not see the point of recycling as they lived in a residential area where trash and recyclables were intermixed and separated at a transfer station. Many did not see the personal benefit of recycling. Extremely high turnover at concessionaires can result in noncompliance with the airport's recycling program without constant new employee trainings. In addition, there are no composting facilities allowed in the County due to air quality issues. As such, food soiled paper and compostable packaging cannot be diverted from landfill.

We have limited space for waste management containers; cannot readily hire waste management labor support, so increased diversion must be accomplished with existing resources. We need to build/reconfigure additional infrastructure to accomplish additional waste diversion.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**13) From your perspective, what are the biggest challenges to implementing a successful and comprehensive waste management program in the airport environment?**

A champion to lead the program deployment.

Airline participation, enough space for waste management facilities and equipment, tenant employee turnover, access to and inconsistent recycling markets and the limited ability to commoditize materials because of low energy prices.

At an airport there are many layers to achieving successful diversion rates from passengers traveling worldwide, tenants and Airport staff. Everyone is busy with minimal or no time to spend "thinking" about managing their waste. At the Airport, we're working diligently to ensure clear, concise, uniform messaging consistent throughout our Airport from public facing areas, tenant spaces/back-of-house and within our Material Recovery Areas. We are working hard to make it as simple as possible. As a part of these efforts, we're developing an education and outreach program including the training of Airport staff and webpage/messaging for passengers.

Concessionaire/retail willingness to participate; apprehension driven by cost implementation

Contract requirements and/or policy that do not require compliance is the largest challenge. The second is space within the retail or restaurants is second.

Coordination with all the interested parties.

Costs (tipping rates are very high). We have observed the staff of janitorial service contractors mix recyclables with municipal solid waste.

Costs to administer and the accessibility to recycling collection resources

Decentralized program with multiple stakeholders is a challenge. We have also had great difficulty with liquid contamination. This is due to the challenge of working with and communicating with multiple parties, including external vendors, custodial/maintenance, TSA, and other parties. There is goodwill and general agreement that recycling is necessary, but it isn't always a priority and decisions are occasionally made without consultation/coordination among all parties who need to buy into changes to the program or system. Additionally, in our region, recycling vendors now have a lower acceptance rate for contaminated recyclables than several years ago and have struggled to help us develop a solution, including potentially evaluating the feasibility of an onsite mixed waste processing facility (i.e. no pre-sorting). The recycling vendors in the region are now charging for recycling instead of providing rebates so the market shifts have affected our program.

Education and communication. With recycling you are dealing with a changing target each day, therefore your message must stay simple and relevant. In airports you are also dealing with individuals who are stressed and under pressure and therefore all training that they have received before is irrelevant. Therefore dealing first with airlines, tenants, etc. is key and then moving down the line.

Existing waste hauling contracts. Waste management companies in general.

I would say logistics as well as concessionaire purchasing and compliance are the biggest. Getting the various waste streams from the source location to an end use location and all of the steps involved while complying with security compliance. Working with concessionaires to purchase recyclable materials as well as getting them to fully implement programs like composting while they are experiencing high turnover and internal challenges has been tough.

## ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary

### 13) From your perspective, what are the biggest challenges to implementing a successful and comprehensive waste management program in the airport environment?

Labor and space constraints for recycling collection and management.

Lack of cooperation/effort by airlines and concession/retail tenants, employee turnover, language barriers, inconsistent diversion/sorting requirements, lack of consistent messaging (ex. container decals), indifferent/apathetic attitudes

Lack of transparent data from the waste management contractor and the need to effect change management with the contractor and with internal Department of Aviation management (waste expense is relatively minor so draws less attention) and staff to prioritize changes that will improve landfill diversion.

Lack of transparent data from the waste management contractor and the need to effect change management with the contractor and with internal Department of Aviation management (waste expense is relatively minor so draws less attention) and staff to prioritize changes that will improve landfill diversion.

Management buy-in, Complexity of numerous waste streams, Costs, Collection and analysis

Obtaining tenant support for programs; Achieving enthusiastic employee, tenant, and passenger participation levels and effective source separation; Maintaining sufficient capacity and service levels at recycling collection/storage and disposal locations during sustained periods of significant growth and peak operating periods; Instilling importance of waste diversion into front-line janitorial and concessionaire staff.

Operational costs/requirements and balancing convenience for tenants and airlines. There are no local regulations/ordinances/laws requiring it. In other words, it's easy to do when you have to, anyway...

Opportunities for improvement include continued training of janitorial staff, increased usage of cardboard balers by concessions and airlines, educating staff and passengers on liquid collection units, and limitations of the City's composting facility,

Participation from airport staff, tenants, and educating airline passengers. I believe education is key as well as support from airport management in order for any program to be successful.

Rules, regulations, cultural practices, and expectations can widely vary in different areas.

Space for recycling bins into restaurant, recyclables segregation and staff turnover.

Space for various bins, physical/time constraints limits on pre-sorting, market for recyclables is low. Diversion is not always a cost savings.

The biggest challenge is creating a culture to normalize recycling among passengers. The other big challenge is integrating sustainable waste management with other sectors of the airport.

The biggest challenges to implementing a successful and comprehensive waste management program in the airport environment are: security regulations (space availability), resource availability (funding, staffing, equipment), and coordination/communication, particularly with airlines/tenants/concessionaires.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**13) From your perspective, what are the biggest challenges to implementing a successful and comprehensive waste management program in the airport environment?**

The passengers and people who use the facilities. We have trash and recycling containers, but people can't use the correct one.

There has to be a buy-in from top management. This includes not only their buy-in on the sustainability side but also an appreciation of the cost and work involved in creating a successful landfill diversion program where it is not mandatory. In addition, language promoting waste diversion activities needs to be added to the janitorial contracts to make them an integral stakeholder. Though some of the airlines are slowly becoming more proactive in recycling, a lot of them are still dragging their heels and are quite adamant about not participating. There are also logistical problems such as available space for the staging of all the multiple streams of waste in a very congested airport environment.

Training multiple and rotating non-Airport staff, and managing compliance from all of the parties.

uneducated/uninterested public vendors to take material

Variable public behavior with respect to proper use of receptacles; leading to contamination. Proper collection and deposit of trash/recycling into bulk storage containers; leading to contamination. Training would need to be continuous to educate the public and employees - who can be a new population every day.

**14) Please rank the following waste streams in order of difficulty to address, from most to least difficult:**

<i>Overall Rank</i>	<i>Item</i>	<i>Score</i>	<i>Total Respondents</i>
1	Airline deplaned waste and recyclables	163	33
2	Airline operations waste and recyclables	136	33
3	Other tenant waste and recyclables	119	33
4	Concessionaire pre-consumer (back of house) waste and recyclables, including compostables	119	33
5	Public/passenger waste and recyclables	116	33
6	Airport administration waste and recyclables	40	33

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**15) (Optional) Please explain your ranking.**

1= most difficult to 6 = least difficult. It is hard to control what airlines are doing with deplaned waste. We have had issues in the past with airlines using recycling dumpsters for deplaned waste (i.e., dirty diapers, etc.) since these dumpsters are located on the ramp/tarmac. Airport custodial staff has been educated on recycling and has communicated what they observe.

Airlines and concessions programs have their own waste management programs so we have little control over their success. Our next step is to identify opportunities to combine our efforts to reduce costs and increase diversion.

Airport staff has the highest oversight over its own administrative offices and less oversight/control over other operational areas, which involve multiple tenants and staff.

Composting (food waste) in general is a difficult collection proposition. Where and how to introduce such a program.

Ease of access to these materials. For example, office space has the least moving parts and restriction when implementing a program. Smaller space and education can be easily passed along.

Even though the above waste categories are ranked from 1 being most difficult to 6 being the easiest to handle all waste categories pose similar challenges in achieving source separation and minimizing comingling various waste types.

For us, airline waste is much more difficult to address than either concessionaire, public, or employee waste since airline operations straddle the line of airport influence and control. For example, various airlines handle deplaned waste using our system while others use their independently operated flight kitchens either partially or exclusively.

It is very difficult to address airline deplaned and operations waste and recyclables due to limited space in ramp area, so there are not enough compactors or existing compactors are located in inconvenient, hard to reach places. The fast paced environment makes it difficult for recycling staff to do outreach and enforcement and for airline staff to complete recycling tasks when they have more urgent things to do like preparing for an upcoming departure or arrival. In the Airport's case, ongoing terminal improvement projects have contributed to the challenge because the airport layout is changing and the existing recycling infrastructure has to be adjusted to the new changes, which is easier said than done.

Not really applicable since we don't have commercial service.

Obstacles include passengers moving quickly through the terminals and not reading / absorbing signage, and the need for a cohesive outreach plan

Passengers are the hardest group to get to comply with waste stream goals because they are the least trainable group with constantly changing members. Each group after that is more trainable, but outside the direct control of the airport, so the airport can only influence their decisions indirectly.

Port Authority does not control the waste and recycling programs of its tenants.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**15) (Optional) Please explain your ranking.**

Public waste and recyclables is the most difficult waste stream to address since many people are in a rush or do not pay attention to waste signage. Compared to concessionaire employees, you cannot provide educational training. Because there are constantly new passengers and the Sacramento region does not have a progressive recycling program, there is no "recycling culture".

The airline deplaned waste, airline operations waste, and other tenant waste is not coordinated through the Department of Aviation contract and the Department of Aviation does not have oversight of these operations so it is the most difficult to address. The Department of Aviation administration buildings are the least difficult and then concessionaire pre-consumer because of encouragement from the concessionaire groups and then the passenger waste because of the difficulty of contamination.

The airline deplaned waste, airline operations waste, and other tenant waste is not coordinated through the Department of Aviation contract and the Department of Aviation does not have oversight of these operations so it is the most difficult to address. The Department of Aviation administration buildings are the least difficult and then concessionaire pre-consumer because of encouragement from the concessionaire groups and then the passenger waste because of the difficulty of contamination.

**16) Please rank the following materials in order of difficulty to address, from most difficult to least difficult:**

<i>Overall Rank</i>	<i>Item</i>	<i>Score</i>	<i>Total Respondents</i>
1	Food waste	261	32
2	Glass	179	30
3	Comingled recyclables	167	31
4	Plastic	167	31
5	Green/Yard waste	165	31
6	Metal	129	30
7	Cardboard	125	32
8	Aluminum	117	30
9	Paper	103	31

## ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary

### 17) (Optional) Please explain your ranking.

1 = most difficult. Managing food waste includes working out an agreement with SSP for the food court and right now this may be a challenge. Plastic, specifically plastic bags have been a challenge as everyone tries to recycle them, but they cannot be mixed into the single-stream waste dumpsters.

2. We have comingled recyclables and mixed waste - both are sorted by our waste hauler/recycler. Excess food or liquid can render either stream unsuitable for sorting. So it's important to remove food and liquid from the waste streams. 1. Food waste: The physical configuration of the waste collection area is not conducive to easy collection by the waste hauler, we need to reconfigure the location and consider managing decaying food and keeping the pests down.

Aluminum/glass/plastic/paper/metal materials are all collected together as a single, co-mingled recycling stream. Food waste (organics) primary difficulties include proper sorting/removal of contaminants and proper usage of approved compostable bags. Co-mingled recycling material commonly contaminated with trash. Cardboard is managed separately from co-mingled recyclables at passenger terminals and is baled. Cardboard recovery is good and contamination is minimal. Green/yard waste is generated, controlled and managed by airport authority staff with very little difficulty.

As mentioned in the last ranking most waste types pose equal difficulties. Sheet plastics and glass waste pose special difficulties because they contaminate other compostable or recyclable waste materials. Our greatest difficulty is due to limited space throughout our campus and providing several streams to recycle, or dispose of properly. Also, several of our tenants manage their own waste streams which makes it difficult to track. We are constantly working with our waste hauler to modify the way we capture our materials to work for Airport streams without impacting space limitations on our airfield.

Commingled recyclables: lack of secondary sorting; Green waste: can't recycle palms, etc. (~50% of green waste load is trash); Cardboard: getting wet by liquid and contaminating the load; Assuming paper, metal, plastic, glass, and aluminum can be commingled; Our janitorial service makes food waste collection relatively easy

Fluids in drink containers is our largest source of liquid contamination and it contaminates the entire truck load of comingled recyclables when over a certain percent and is considered landfill waste by recycling hauler/processor. We've done a pilot project on composting food waste that determined it was feasible, but there is no large scale commercial composting facility in our region to accept organic materials.

Food waste is first, all of the remaining have equal ranking, they can be commingled with no preference to order.

Generally, organics including food and yard waste are more difficult due to their separation and disposal requirements. Also, using comparatively higher-cost compostable bag liners tends to put off some would be composting tenants. The other recyclables are easily recovered mostly via a commingled approach, except glass.

Good markets for metals, cardboard and office paper. Hard to find markets for other recyclables and general difficulties with yard and food waste.



**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**17) (Optional) Please explain your ranking.**

I define food waste to include the packaging food and liquids touch. Even when an item is made from materials that can be recycled, once food or beverages touch it, it becomes trash. If that 'trash' is placed in bulk recycling, the recycling hauler rejects the whole load. Rejection rates could vary from 5-20% contamination.

Really only 1-3 are difficult; all others are reasonably seamless once the process was established.

Recyclable materials on this list are commingled with the exception of food waste and green/yard waste, which are collected as trash and back-end sorted at the MRF. Cardboard can be baled in one central area; however, it's challenging to train multiple users in multiple locations to follow a protocol.

Single-stream comingled recycling is the current design of the Department of Aviation waste contract and allows for relative ease in recycling. Metal recycling is completed by the Department of Aviation staff through a separate contract and dumpsters are located at the two main locations where there is waste metal. Food waste from passengers would be considered the most difficult to address because of the extra required containers and education required.

Single-stream comingled recycling is the current design of the Department of Aviation waste contract and allows for relative ease in recycling. Metal recycling is completed by the Department of Aviation staff through a separate contract and dumpsters are located at the two main locations where there is waste metal. Food waste from passengers would be considered the most difficult to address because of the extra required containers and education required.

The Airport does not produce much yard waste. Waste audits have shown that food waste is one of the major components of the waste stream. Capturing this stream through composting and food donation is difficult because of space considerations, the negative perception people have toward "smelly" composting, along with the overwhelming presence of Styrofoam and non-compostable serviceware. Outside of a few recycling compactors, most of the recycling has to be taken out on the ramp to roll-offs or front-end loaders. This is a logistical problem for the concessions since TSA limits the number of employees from each concession with access to these roll-offs.

The answers to this question would depends on which segment/area you are considering.

The State has no food waste recycling facilities, so food waste ranks as the most challenging. Green/yard waste ranks as more challenging then aluminum, etc. because it just requires different handling. The remaining categories rank equally.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**18) What actions have you taken to overcome obstacles to your program?**

1. We have a monthly Sustainability Committee, which includes representatives from throughout the Department. Recycling and waste reduction is one of several issues we discuss. Additionally, Planning/Environmental staff meet with TSA and the Custodial unit to discuss our issues, concerns, and plans. Also, we have developed a new poster campaign along with other signage/messaging to help get information out about our recycling program. 2. Division of Aviation has installed bottle-filling stations throughout the terminals. This encourages passengers to empty water containers before they go through security, as well as to use refillable containers in general. 3. This year, we are placing more bins in checkpoints. Wherever possible, they are paired sets of one waste and one recycling bin. 4. We are looking into the feasibility of building and operating a mixed waste processing facility to handle all Division of Aviation, concessions, and airline waste and recycling.

a few of the items that would help us to overcome obstacles include: Hiring additional staff, education materials, sufficient budget

Addressing contact language with waste haulers to insure the Airport receives better data on amounts recycled.

Allowed all airport staff and tenants to utilize recycle containers provided by our concessions tenant.

As mentioned previously, the Airport program is dynamic and contains many moving parts. We have taken a strong partnering and outreach/education approach with local, city, tenants, and Airport staff. Our partnering with City and county and surrounding county have helped drive and gain tenant participation through our Green Business program. We have also partnered with our waste hauler, custodial staff to ensure current challenges are addressed. Even our finance team has helped create an incentive program to help green business participation.

Better container labeling, different color bags for recycling, monitoring trash and recycling dumpsters

Collaboration internally/with haulers

Collecting waste, recyclables and organics at each concessionaires by an airport subcontractor (limited access to the compactor room).

Communication and sharing best management practices. We meet monthly with our tenants to answer questions regarding issues they may have, and we also meet quarterly as a waste management implementation group to see where we can improve, especially in a changing climate of commodities.

Consolidate some refuse locations that were served by concessions into the Department of Aviation contract.

Consolidate some refuse locations that were served by concessions into the Department of Aviation contract.

Department informational meetings and tenant trainings.

discussions with concessionaires, tenants, and airlines

implement single stream pair waste/recycle containers utilize multiple recycle facilities

## ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary

### 18) What actions have you taken to overcome obstacles to your program?

In the process of still trying to overcome these obstacles. Have been in communication with new management and hopefully the airport will begin implementing a comprehensive recycling program beginning in 2018.

Introduction of diversion requirements in leases and contracts, inspections/audits in tenant spaces and follow-up with appropriate tenant management and lease administrators, training provided to tenant management, messaging (signage, container decals, etc.) provided to tenants.

Place specific language in the custodial contract.

Providing regular outreach and education. Following a plan-do-check-act model and continuous reevaluation of practices. Providing rewards/incentives to management and employees. Providing a waste management area that is organized with clear signage. Collecting data and feedback through waste assessments, program analysis, and conducting pilot studies. Our waste team provides assistance rather than policing.

Requested more resources to increase diversion and collection rate.

Set up standing monthly meetings with waste hauler, and receiving monthly reports;

Signage and education.

Significant education materials and outreach to tenants (concessionaires and airlines), employees, and passengers; Expand recycling bins into under-served areas; Offer equal opportunity recycling and disposal at each location; Collect food scraps and compostable service ware in food courts and back-of-house areas; Recycling and Food Service Ware requirements for concessionaires; Pay-As-You-Throw based solid waste utility administration system; Dedicated Airfield Trash Handling and Recycling System; Food Donation Program partnership with local non-profit; Maintain liquid waste drain stations and recycling bins at security checkpoints;

Starting to coordinate between departments, tenants, haulers.

The Airport has received pushback from new concession managers on our recycling program as many did not see their need to participate. This occurred at both the beginning of introducing food waste recycling and when there is concessionaire manager turnover. There were multiple efforts required to overcome this obstacle. One, the need for a recycling champion at each restaurant was important (normally a supervisor or a utility worker). Someone who could assist other employees with proper waste disposal while the Recycling Coordinator was not around. Having a consistent working relationship with managers is important. When managers realized that the Airport's recycling program was something that was supervised closely and regularly, they make sure their employees are recycling. Second, if managers were apathetic and did not engage with the Recycling Coordinator, Properties and the Recycling Coordinator would inform concessionaires that proper waste disposal is part of the Concessionaire's performance standards and incorrect waste disposal can result in a violation. Financial loss would ultimately be the motivator for apathetic managers.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**18) What actions have you taken to overcome obstacles to your program?**

The Airport provides containers to all concessions willing to participate. Staging areas are set up as close to the concessions as possible. City-contracted custodial crews take the compost from the concourse level out to the ramp. All composting is pre-consumer. Post-consumer is too contaminated. Because for the most part all the recycling containers are out on the ramp which not all concession employees have access to, the Airport has been looking into contracting out the collection of items such as glass from the concession where it will be picked up at the concession, transported to the staging area, and hauled away to the recycling center. Have made concession to airlines to allow recyclables to remain in bags, though it costs the Airport more for handling. Differently colored bags are used to better identify the various waste streams.

Training programs and liquids collection stations are planned. In the midst of a study to identify methods for food waste management.

Tried to find the lowest cost solutions to still achieve goal

We are in the process of ordering new recycling bins for customer areas. We have done some spot investigations of dumpster contents to understand the trash and put additional cardboard recycling in locations, where warranted.

We have brought all of the stakeholders together in meetings and work sessions to sit down together to resolve logistical problems. We have also utilized verbiage in our contracts to implement participation and push compliance with airport and City policies. We have provided training to employees of vendors and different departments. We have purchased containers to kick off the composting program and are having carts made to transport those containers throughout the concourse.

We have conducted a waste characterization study to understand the airport's waste stream and identify areas for improvement; improved bin signage (less words and more graphics); added new compactors; improved coordination with Airport Ops; added capacity (labor and equipment) and increased outreach with stakeholders.

We have had a couple employee groups study the process within the terminal area to suggest solutions. We have also done interviews and field visits to observe every receptacle and its waste composition. We have visited the landfill and recycling centers where our waste is taken. And we are currently using the topic of contamination in recycling as a Green Belt project in a Lean Six Sigma class in house.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**Resources**

<b>19) Where do you get ideas for ways to expand and improve your program?</b>
1. We look for and share (within our unit) articles on airport, municipal, or industrial recycling; other information sharing methods with other airports and similar large-scale facilities (conferences, webinars, events). 2. We coordinate with the City's recycling/waste management department
ACI conferences and airport industry colleagues. Locally from county agency resources.
ACI, Sustainability study.
All staff at the airport are tuned into the goals of waste reduction and recycling. We're also working with the City and County Department of Environment in implementing the City-wide guidelines and practices. In addition we participate in ACI waste management group, a local recycling committee, and other conference organized by various entities aimed at advancing the state of the art in recycling.
City and Airport environmental staff collaboration.
Consultants, conferences, state officials, internet
County solid waste reps, online, staff recommendations
Discuss with employees and tenants.
FAA guidance and local vendors.
industry publications industry organizations front line employees internet research industry conferences/webinars waste/recycle vendors
Industry publications/practices; county technical assistance; local organizations
Industry trade association communications, publications, and info exchange during conference attendance; communications with other airports, consultants, and industry veterans; prior industry focused synthesis documents and studies;
Information from other airports who have more experience in their waste reduction and recycling practices. Also, other internal city resources, such as the City zero waste coordinator program.
Literature reviews, sharing best practices with other airport operators, conferences, state government, county government.
Mayor's Office, City Sustainability Task Force, Airports Going Green conference, consultants
Mayor's Office, City Sustainability Task Force, Airports Going Green conference, consultants
Other agencies locally and other airports
Other airports and ACI-NA
Other Airports and publications. The FAA Recycling, Reuse and Waste Reduction at Airports: a synthesis document has been helpful.
Other airports program, ACRP guideline, municipal program and best practices.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>19) Where do you get ideas for ways to expand and improve your program?</b>
Other airports Waste Management firm
other airports, the City, internet
other airports, web search
Our solid waste authority; ACI waste working group
Previously, Airport Sustainability Coordinator has asked each Airport department to provide comments and suggestions on sustainability initiatives that can be implemented within their department.
Program management team, Students contracted through State University, State Department of Environmental Quality, feedback from airport employees and passengers, industry trade publications and organizations, and our contracted waste hauler.
Review of literature, calling other airports.
Some ideas came from an FAA sustainability guidance document, such as implementing liquid collection stations. Some came from other airports and speaking with sustainability professionals there. Some came from internal ideas and coordinating with other city departments.
Staff, airlines, tenants.
Support comes from the County office which focuses on sustainability
The Airport conducts frequent waste audits. We know what is in our waste stream. The Airport consults with local businesses about the best methods of capturing these commodities. The DEN has received invaluable help from other airports about their methodologies. We consult with industry publications and are involved in industry associations. Public and employee feedback is also useful in promoting new initiatives.
We get ideas from tenants, airlines, vendors, passengers, and especially employees
We get most ideas from other airports. Webinars, environmental conferences, expos, environmental consultants have helped.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**20) How do you obtain information about recycling, composting, diversion, donation, and waste reduction practices?**

1. Industry-specific articles and reports (state/city recycling organizations and groups, ACRP, ACI-NA, etc.) on airport, municipal, or industrial recycling. 2. Coordinate with the City's recycling/waste management department, City's waste and recycling committee, and the city's new effort/program to reduce waste entering landfills and conventional incinerators as well as beautify the city's streets. 3. Meet with vendors and other experts in industry

ACI conferences and airport industry colleagues. Locally from county agency resources.

ACI Sustainability Working Group, ACI Waste Management Working Group, City Food Waste Workshop, etc.

City and County Department of Environment, our waste hauler, local county recycling committee, state recycling program, sustainability professional groups

City environmental staff share information and regularly communicate with Airport staff.

Consultants, conferences, state officials, internet

County

Current hauler - Waste Management.

Data tracking and analysis from waste assessments, special events, contracted waste hauler, trade organizations/publications

From ACI-NA and local conferences, meetings, and workshops, TRB and other webinars, internet.

From industry and internal city resources.

I am assuming you mean from tenants. We usually reach out to them for data regarding their waste stream practices.

industry publications industry organizations front line employees internet research industry conferences/webinars waste/recycle vendors

Industry publications/practices; county technical assistance; local organizations; current vendors and contractors, trade associations, seminars, conferences, webinars

Internet

Literature reviews, sharing best practices with other airport operators, conferences, state government, county government.

Local agencies

Mayor's Office, City Sustainability Task Force, Airports Going Green conference, consultants

Mayor's Office, city Sustainability Task Force, Airports Going Green conference, consultants

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**20) How do you obtain information about recycling, composting, diversion, donation, and waste reduction practices?**

Monitor local and State announcements and resources regarding recycling policy updates/changes; Monitor best-practice guidance and new developments from retail, commercial, and public-sector leaders. Monitor industry trade group activity, attend conferences, and review publications... ACI, AAAE (e.g. airports going green), ACRP; Participate on panels and exchange information with other airports.

on site visits, online information, seminars

Our solid waste authority; ACI waste working group

referencing state and local solid waste department policy, practices, and requirements; internet and researching other airports

Same as question 19.

See answer 19

Support comes from the County office which focuses on sustainability

Talk with our vendors/contractors and our current waste hauler

The Airport consults with local recycling businesses and other airports about the best practices for waste reduction.

The City; Collaboration within the Authority; State Resource Recovery Association; State Zero Waste initiative; State organization dedicated to a zero waste, litter-free, and environmentally engaged region; State Food Safety Alliance; State Recycling Program; ACI/AEEE conferences and workshops

Tracking and weight tickets.

Trade publications

Various ACRP and EPA literature.

Waste Management firm Other airports



**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**21) How do you obtain information about tipping fees, recycling fees, rebates, incentives, requirements, and other waste management information?**

1. Internet 2. Coordinate with the City's recycling/waste management department and other City departments (obtain tipping and recycling fee information). 3. We reach out to industry professionals/experts/vendors

By contacting our finance department to look at historic rates, as well as discussions with our waste and recycling haulers.

City environmental staff.

City waste department

Contracted waste hauler, waste management representatives from local jurisdictions, local waste community

County

Current vendors and contractors; county and/or state outreach programs

DEQ, State Recycling Coalition

From our contracts with vendors

From our waste hauler

In general we award a 5-year contract for handling all of the solid waste generated at the Airport including the source separated recyclable and compostable waste. The bid Form for these contracts requires the bidders to provide unit handling costs in \$/ton for each of the enumerated components of the waste. The Airport receives credits for some recyclable components such as metals, cardboard, etc. For general information, we reach out to local haulers, recyclers, other city departments, vendors, equipment manufacturers and attending seminars

industry organizations internet research industry conferences/webinars waste/recycle vendors

internet

Internet and consultant.

Monthly invoices and/or by speaking to recycling/waste providers.

Mostly through our solid waste service provider, various recycling contractors, the City's public works department who oversees the contract, and County staff who own and operate local transfer station systems and landfill.

Our solid waste authority; Our contracted waste hauler; ACI waste working group

Proactive research, and by asking our waste hauler

referencing state and local solid waste department policy, practices, and requirements; internet and researching other airports

RFP process and consultant research

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**21) How do you obtain information about tipping fees, recycling fees, rebates, incentives, requirements, and other waste management information?**

RFP process and consultant research

State Department of Public Health and Environment is primary resource along with current hauler. The State has a rebate program that the City and Airport have applied for in the past.

Support comes from the County office which focuses on sustainability

The Airport has an in-house team dedicated to the concept of landfill diversion. The Airport confers with other airports about their methods: what works for them, what doesn't work. Our food donation program was created with consulting help from PDX. Along with industry publications and contacts with other airports, the Airport keeps abreast of current technology and methods.

The Airport's Maintenance staff who maintains the hauler contract provide information on tipping and recycling fees.

This information is mostly from service provider. Local and state government agencies, other airports, environmental consultants may have supplemental information.

This is considered in the custodian contract. It is up to them to negotiate and pay fees but they also are the beneficiary of available rebates and incentives.

This is handled through the Procurement Department.

Via waste hauler solicitation.

Waste haulers.

Waste haulers.

Waste Management firm

We coordinate with other departments and fees are based on our current contract with our waste vendor that is very helpful as well.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**Policies and Goals**

**22) Does your airport have environmental and/or waste management policies? In this context, a "policy" is an organization's statement of principles which guide decision making as well as the establishment of objectives and procedures.**

<i>Value</i>	<i>Count</i>
Yes	24
No	10
<i>Total</i>	34

**23) If yes, please describe your airport's environmental and/or waste management policies.**

Adopted City policy, developing a Zero Waste Plan that will fall under the Authority's Sustainability Management Plan

Airport Rules and Regs states that tenants shall maximize recycling and composting within their leasehold by providing separate, marked containers for recyclables, compostable waste, and landfill waste/trash. Tenants shall source separate each type of material in the designated recycling, compost, or landfill/trash container and shall be responsible for ensuring that all employees and patrons do the same. Tenants are prohibited from disposing of recyclable or compostable items into any landfill waste/trash compactor or container anywhere in the Airport including, but not limited to, their leasehold and designated Materials Recovery Area.

Compliance based, somewhat aspirational. We currently set a Key Performance Indicator of diversion rate at 6% -- arbitrary goal based on past performance

Currently, the Airport is developing a sustainable management plan which will determine our environmental policies. We have a resource stewardship policy that states: The County Department of Airports will enhance the current and future economic development and quality of life potential for the region through fiscally sound decision-making, responsible resource stewardship and valuing our stakeholders. We are committed to proactively managing our assets for the long-term benefit while minimizing the consumption of non-renewable energy and materials

General policy to recycle.

Initial recycling initiative created under the establishment of an Environmental Management System and successively a more holistic sustainability program.

Our environmental and waste management policies are reflective of the larger City policies and goals, and are reiterated in our master plan process for waste and environment

Philadelphia airports are owned by the City and operated by the City's Division of Aviation (DOA). The DOA is drafting a Sustainability Policy but is not public yet. The Environmental Policy statement is available online at <http://www.phl.org/Documents/AboutPHL/Environmental/EnvirPolicyStatement.pdf>

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**23) If yes, please describe your airport's environmental and/or waste management policies.**

Policies are being updated at the moment, but in general, we strive to meet and exceed state and city requirements and goals. We also have a Mitigation Monitoring and Reporting Program and Community Benefits Agreement that dictates our environmental and waste management policies and programs.

Policies are set forth [online]

policies include non-polluting of ground water,

See Environmental Policy, available at [online]

single stream for off-site sorting and recycling, except cardboard and coffee grounds

"The Airport Authority will follow the State Waste Management Hierarchy specified by State Statute outlining the order of preference for waste management methods as follows: (1)

The Airport Improvement Trust established a mission statement for the Green Initiatives Program and a related goal. The Green Initiatives Program Mission Statement reads, "The mission of the Airport's Green Initiative Program is to conserve resources by advancing recycling and waste reduction throughout the airport." The program goal is stated as, "The overall goal of the Airport Green Initiatives Program is to promote waste reduction and recycle of marketable materials generated at the airport. Members of the Airport Green Initiatives Team recognize that recycling and waste management: Reduces the weight, volume, and cost of materials introduced into the landfills; Supports local industries; Creates jobs and business opportunities; Allows employees, tenants, and customers to contribute to environmental solutions; and Improves the quality of life in the city and the surrounding communities." The purpose of this mission statement and goal are to act as a driver for decisions and actions related to green initiatives, specifically waste and recycling.

The City's Aviation Department, which operates the Airport will incorporate sustainable principles, climate resiliency best practices, and environmental stewardship into all aspects of its culture, planning, development and operations at the Airport. This will be achieved by focusing resources in the following areas at the Airport: Continually strive to reduce resource consumption through innovative design and technology in the planning, development, and construction of airport facilities; Engage with tenants, business partners and stakeholders on projects to promote energy efficiency and resource conservation and to facilitate alignment with the Airport's sustainability and climate resiliency goals; Incorporate sustainable principles into operations and maintenance practices through training, staff engagement, technology improvements and management support; Minimize airport environmental impacts by reducing energy, transportation fuel & water consumption along with waste generation while enhancing water reuse, recycling, on-site renewable energy and waste diversion programs; Continue to integrate clean vehicles into the Airport fleet and ensure the best available engine/fuel technology is utilized to reduce ozone precursor chemicals and carbon emissions; Purchase renewable energy and carbon off-sets from sustainable sources; Identify and take advantage of opportunities to derive business value from improved environmental performance and drive continual improvement in Airport operations; and Maintain a systematic program approach to support continued compliance with all applicable environmental regulations.

The Port Authority has a written outline of our recycling program and promotes staff involvement through emails

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**23) If yes, please describe your airport's environmental and/or waste management policies.**

The Port Authority's Waste Minimization Policy directs the Port in efforts toward pollution prevention and resource efficiency and applies to all Port employees and those working on behalf of the Port. The policy states that the Port will strive to eliminate wastes in the operations it controls and enables and continually seek ways to reduce its waste and use of hazardous materials through responsible purchasing practices, maximizing the useful life of materials, reusing and salvaging materials, and through recycling and composting programs. The Port Authority also has a "Five Years to Zero Waste Plan" to provide a guidance framework for the actions necessary to reach "zero waste" status over the next five years.

The procedure consists of the process for proper waste disposal and includes procedures for solid waste, hazardous waste, universal waste, special waste, and recyclable materials.

To be a leader in the community and airport industry by preserving and enhancing the Department of Airports' financial, human, natural, and energy resources.

To expand the existing waste management program to divert more waste from landfills through increased recycling, composting, and procurement policies.

waste management plan sustainability management plan integrated waste management plan

We have a number of environmental procedures, including a recycling procedure for the Airport Authority. Our recycling procedure, provided as mandatory training for all employees, details materials recycled, treatment of such materials, and locations to deposit materials. We have a sustainability plan. One of the established goals is to increase recycling and waste diversion.

We have multiple layers of policy driving environmental/waste management efforts including our overarching Century Agenda Goal

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>24) Please describe your airport's specific objectives or goals for:</b>
<b>Waste reduction (minimizing overall total amount of waste created)</b>
Recycling
Employees shall implement waste reduction practices in accordance with Sustainability Plan and/or direction by senior staff.
increase
zero waste goal by 2021
To be developed in upcoming Zero Waste Plan
change procurement policies
none
Meet and exceed City and State targets and requirements
90% reduction city internal waste by 2020
Undefined
N/A
None

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>24. Please describe your airport's specific objectives or goals for:</b>
<b>Waste diversion (diverting waste from landfill)</b>
75%
Reuse of materials
90% or greater
Reducing the amount of landfilled waste in 2020 by 2,000 tons less from the 2012 baseline.
increase
10%
75%
zero waste goal by 2021
90% reduction city internal waste by 2020
40% by 2020
50% by the end of 2017
15% of Annual Total
divert 60% of terminal waste from landfill by 2020, and 15% of airfield waste by 2020
To increase diversion rates (% increase yet to be determined)
increase recycling and composting
The CDA set a goal of 50% landfill diversion of waste by 2015
The CDA set a goal of 50% landfill diversion of waste by 2015
By 2020, we will increase our waste diversion rate to 35% or greater.
6%
Meet and exceed City and State targets and requirements
Undefined
N/A
General Recycling
Reduce landfill
>25% diversion rate for the terminal

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>24. Please describe your airport's specific objectives or goals for:</b>
<b>Recycling (collecting items for use as a raw material in manufacturing)</b>
Participation by all stakeholders
Increase recycling rate to 25% by 2020
Recyclable materials shall be segregated from the solid waste stream at the point of generation and managed in a way that allows the materials to be transported by an appropriate vendor.
increase
10%
zero waste goal by 2021
Better signage, education, improving bin pairing
new recycling stations, better visibility, location strategic
90% reduction city internal waste by 2020
none
Meet and exceed City and State targets and requirements
50%
Undefined
N/A
None
<b>Other</b>
No established goals yet, but looking to develop a plan
Waste reduction and recycling efforts are captured in our waste diversion metrics and reporting structures
There are no specific objectives or goals that have been implemented



**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**Procedures**

**25) Does your airport have written procedures for waste management or elements thereof? In this context, a "procedure" is a set of written instructions to be followed in order to reach an end result.**

<i>Value</i>	<i>Count</i>
Yes	20
No	11
Not sure	3
<i>Total</i>	34

**26) If yes, please describe your airport's written procedures related to waste management.**

Our recycling procedure, provided as mandatory training for all employees, details materials recycled, treatment of such materials, and locations to deposit materials.

Both composting and food rescue programs have written standard operating procedures (SOP's).

Directive for tenants to specify recycling separation and type of bags to use (clear blue bag for recyclables, clear bag for waste and compostable bags for organics).

In accordance with county ordinance

Lease agreements, City ordinance

Procedures are laid out in the waste management policy.

Procedures for operating recycling compactors and what materials can go in them

Same as described in question #23.

single stream guidance posters

The Airport has a "Solid Waste Management Plan" which includes initiatives to reach the 40% goal by a determined year.

The Airport has an Environmental Management System that provides guidelines and work instructions for the various waste streams along with documentation in the Rules and Regulations

The Airport recently developed a Zero Waste Road Map which serves as a resource to guide future decision-making associated with projects, policies, and practices that may directly or peripherally impact the management of materials across the Airport. Drafted in conformance with current waste handling and recycling codes, including the City's Environmental Code and the Federal Aviation Administration's (FAA) Modernization and Reform Act of 2012, the Plan encompasses all materials across respective lifecycles and proposes circular, regenerative, and reuse options that would increase landfill diversion of all generated waste. We've also developed the following maps and guides: - Material Recovery maps indicating where recovery areas are located around the airport and which materials could be deposited at each area. - A What Goes Where guide - indicating what waste items could be placed in containers labeled as compost, recycling and landfill waste. -

## ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary

### 26) If yes, please describe your airport's written procedures related to waste management.

Material Recovery Guides providing contact information and a list of websites providing data on recyclable and reusable items

The Airport's procedures focus on processes to ensure a consistent method of material handling.

The Custodial Contractor has written procedures, as required by the Airport's contract that requires collection of recyclable materials from their customers and report monthly weights of each waste stream diverted from and delivered to the landfill.

Trash Disposal and Recycling a. All tenants are required to properly handle, recycle, and dispose of their own refuse in the Terminal, unless otherwise stated in the tenant's lease agreement. Tenants shall refer to their lease agreements for further details. Tenant employees are required to have SIDA badges to access refuse disposal and recycling containers. b. Food and beverage concession facilities must install and maintain used cooking oil liquid grease collection equipment. Concessionaires are solely responsible for all costs associated with the interception, collection, and appropriate disposal of fats, oils, and grease generated by their operations on the premises, and for compliance with all related laws. If a grease spill occurs, the concessionaire is required to immediately report the spill to the responsible Commercial Manager and Environmental Specialist. Concessionaires will be billed for all clean-up costs incurred by the Department of Airports for cleaning up grease spills. The Department of Airports has the specific right to conduct inspections, without notice, of all grease interception, collection and transport systems and equipment to ensure that the required level of maintenance is being provided. The results of these inspections will be provided to the concessionaires in writing. Subject to the notice requirement set forth below, if the Department of Airports determines that a concessionaire is not adequately maintaining its grease interception and collection systems and equipment, the Department of Airports will have the right to hire a third party to undertake the maintenance and repair of concessionaire's grease interception and collection systems and equipment, at concessionaire's sole cost, for the remainder of the concessionaire's lease term. Notwithstanding the foregoing, the Department of Airports will provide up to 2 written notices in any year to a concessionaire, with a time for cure, before it may exercise its option to contract with a third party to perform maintenance of concessionaire's grease interception and collection systems and equipment. Department of Airports also reserves the right to recover the cost of repair or maintenance of its grease waste, sanitary waste, sanitary sewer and other facility systems that are damaged or adversely impacted by a concessionaire's failure to properly maintain its equipment or properly dispose of fats, oils, or grease as required above. c. Recycling Program. 1) The Department of Airports maintains a centrally located solid waste and cardboard recycling center with trash and recycling. Refuse from tenants operations, deliveries, and storage areas shall be contained in a designated area. Tenant managers will advise employees on how, where, and what to recycle to ensure compliance with the Department of Airports recycling program. Temporary storage or disposal of refuse in places other than the designated solid waste and recycling bins is not permitted. 70 Placing recyclable materials into waste compactors bound for the landfill is prohibited. Dumping of boxes, pallets, or other materials, particularly in or near storage rooms and access hallways, is considered a life and safety hazard, and is prohibited. 2) It is the responsibility of the tenant to store and dispose of oversize items that cannot be disposed of or recycled using the standard containers provided by the Department of Airports. The Department of Airports may occasionally host special events to collect, salvage and recycle items that cannot be easily placed into the compactor or recycling containers. Tenants will be alerted to these events. 3) For questions and/or information about recycling, call the Department of Airport's Environmental Programs Manager.

Waste management procedures are outlined in the Airport Rules.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**26) If yes, please describe your airport's written procedures related to waste management.**

We have a recycling procedure for Airport employees under our Airport Operating Procedures (AOP). This AOP covers commingled recyclables, cooking grease, green waste, wood pallets, scrap metal, used tires, etc.

We have a Waste Management Plan that address all waste create at the airport.

We maintain a Solid Waste Management Plan, which includes summaries of recommended initiatives, responsible parties and tasks; We also maintain recycling program management materials governing communication protocols, service scheduling, and maintenance requirements. In addition we produce and distribute recycling guidance brochures for employees, and tenants and include signage on all public and tenant recycling bins.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**Reduction**

**27) Does your airport practice waste reduction? For this project, waste reduction is defined as efforts to minimize the overall total amount of waste created; therefore, reducing the amount of waste that needs to be recycled, composted, landfilled, or otherwise managed.**

<i>Value</i>	<i>Count</i>
Yes	22
No	10
Not sure	2
<i>Total</i>	34

**28) If yes, please describe your airport's waste reduction strategies.**

Also called "waste minimization," waste reduction refers to reducing the volume of waste produced at its source. This can be accomplished through changing habits and practices, such as printing and purchasing. The Airport currently employs the following practices to reduce the total amount of waste generated at the Airport: Restricted purchasing Double sided printing in Administration Offices Email and internal websites for interoffice communication. Shared drives for storage of documents. Computer software to receive fax messages On Screen print preview and PDF printer or other electronic printing. Electronic signature software. Unsubscribing from duplicate hard copy magazines, newsletters, etc. and sharing one copy. Outsourcing large print jobs

Double sided printing, reusable plates and cups

Encourage the use of reusable water bottles and coffee cup for the airport employee.

Food donation program diverted 56,000 lbs. of surplus concessionaire food; double sided default print settings throughout organization; procurement guidelines specify double-sided printing and digital submittals (in some cases); standard paper-free pay stubs (with opt-out option); shifting from paper-based to digital capital project design review process;

Goals in contracts and leases for waste minimization and use of recyclable materials; double sided printing; reuse and repurposing items; green purchase policy

Our waste reduction strategies include implementing default double-sided printing; paperless systems for administrative processes; donation programs (food, landscaping material, electronics, and furniture); bottle-filling stations in terminals; EPP practices for copy paper and janitorial products.

Please see the Airport's attached Waste Reduction and Recycling Awards Program application

Prioritizing material salvage, repurposing, or donation. Twice a year we host airport Cleanup Events where all tenants can recycle, donate, or dispose of unwanted bulky items free of charge (excludes hazardous waste). In the spring, we conducted a pilot program using durable dishes at the Airport's food court in place of single-use materials. All restrooms have hand dryers and signage on paper towels asking users to conserve resources.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**28) If yes, please describe your airport's waste reduction strategies.**

Providing resources for passengers to aid in waste reduction, i.e. water bottle filling stations to reduce plastic bottle waste.

Recycling of Deicing Fluid Auction of Surplus or end of use items Re-Sale of Pallets Re-use of Asphalt, Concrete, and other related construction material Tree mulching Removal and replacing of landscaped material Re-capping of tires Food Donation

Reduce Reuse Recycle

"Reduction: Commission employees shall implement waste reduction practices in accordance with the Commissions' Sustainability Plan and/or direction by senior staff. Examples include, but are not limited to: (1)

The Airport Authority has issued reusable water bottles to personnel to reduce the amount of plastic bottles in the waste stream. Bottle filling stations are available in administration buildings, and are being increased within the passenger spaces.

The Airport has materials management regulations & policies for both Airport staff and tenants encouraging waste reduction practices including paper use reduction, use of biodegradable carry out food containers, etc.

The City has adopted a goal to reuse, recycle, or compost 75 percent of City-generated waste measured by weight through internal operations by 2014, and 90 percent in a few years (from the 2014 baseline). The airport may have additional wording to add to this goal, as the majority of our waste is not City generated.

Trash bags purchased by Airports are made from repurposed irrigation hose. Bags are right sized for bins to minimize excess plastic being sent to the landfill. This will result in 22,429 lbs. of plastic being diverted from landfill.

Water fountains designed to refill water bottles

Water fountains designed to refill water bottles

We recently installed bottle-filling stations and have been giving away reusable water bottles to discourage over-use of throwaway (one-time-use) beverage containers. Airport and City have implemented numerous paper reduction initiatives by switching to electronic submittals for permits, billing, approvals (digital signatures), reports, procurement processes, etc.

When staff orders materials we follow County Purchasing guidelines.

Reuse

**29) Does your airport reuse materials? For this project, reuse is defined as using materials, equipment, or other items several times either for their original purpose or another purpose in place of single-use alternatives. Reuse lowers the total number of items that need to be recycled, composted, landfilled, or otherwise managed.**

<i>Value</i>	<i>Count</i>
Yes	23
No	7
Not sure	4
<i>Total</i>	34

**30) If yes, please describe your airport's reuse strategies.**

Abandoned luggage, clothing, and partial rolls of toilet paper, and excess office supplies are donated to local non-profits.

Administrative office supplies (binders, folders, etc.); Pallets; and some furniture and casework (as applicable); Construction Waste Management includes reuse/salvage of significant amounts of concrete, soil, and other construction materials

Building materials

File Folders, cardboard boxes, office equipment and furniture

For collection of tree and shrub clippings, reusable burlap sacks are used in lieu of plastic bags. In addition, reusable tumbler cups have been provided to all airport employees who participated in recycling training.

Green Concessions Program checklists and education/outreach; Authority has an environmentally preferred purchasing policy (EP3); recycled office supplies and cubicles; department admin resource sharing; reusable dishware in select break rooms

If we have a material that we reuse for a different purpose, we do so.

Maintenance keeps equipment for parts

Not in the context of your project definition. But we reuse C&D materials during construction as well as in daily field maintenance. And we hold auctions for a variety of airport surplus items, including vehicles and furniture and shipping containers.

Reuse of building materials if possible. Reuse of milled asphalt for paving projects

Reuse of construction & demolition (C&D) material such as pavement is our main reuse strategy, but I understand C&D material is not relevant to this survey. Our new bottle-filling stations promote reuse of water bottles.

Reuse of office supplies, furniture.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**30) If yes, please describe your airport's reuse strategies.**

"Reuse: Materials, equipment or supplies that no longer serve their intended purpose or are otherwise not wanted or needed but may be useful to others, or for another purpose, may be subject to Policy Number 2236 Disposal or Purchase of Surplus Material, administered by the Commission Purchasing Department. Initial consideration is given to internal transfer of Commission-owned property to another Commission Department. Other methods to be considered in consultation with the Commission Purchasing Department include: (1)

Some reuse is done with materials by the maintenance department. We stockpile chain-link fence and other building materials that can be reused.

Tenants and employees are encouraged to reuse materials from the semi-annual airport Cleanup Events, the Waste Minimization Team provides assistance to tenants to encourage reuse of materials and logistical support to connect tenants with local reuse organizations.

The Airport currently reuses: Green waste (grass clippings) as mulch, Ceramic coffee mugs and durable silverware, plates, bowls, and cups (instead of plastic, paper, or Styrofoam) in Administration breakroom(s) Scrap paper as scratch pads. Packing materials. Office supplies, including interoffice envelopes. Towels/rags in maintenance areas (laundered by third party) office furniture

The Airport reuses furniture as well as carpets, tiles, and items in areas being renovated when applicable. All construction projects have to abide by the Airport's "RECOVERY, REUSE, AND RECYCLING REQUIREMENTS" which encompasses LEED as well as Local Environment codes.

The Airport utilizes a salvage yard where unused equipment can be reissued to other departments or auctioned. We are also utilizing vendors that focus on reselling material.

The airport's current reuse strategies are basic and include reuse of plastic bags for trash receptacles and wood pallets. Office supplies are also reused.

This mainly applies to construction projects. We try to reuse materials on site, when appropriate. For example, crushed asphalt may be reused for dirt roads on airport property.

Warehouse or maintenance will alert other departments of materials available for reuse (informally). Asphalt, concrete, and other C&D and building materials will be stored/reused on site whenever feasible.

Where feasible, the airport reuses durable materials, such as construction material multiple times in order to extend the life of each material and reduce waste stream.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**Donation**

<b>31) Does your airport recover and donate food?</b>	
<i>Value</i>	<i>Count</i>
Yes	19
No	13
Not sure	2
<i>Total</i>	34

**32) If yes, please describe your airport’s food donation program. For example: Which tenants donate food? What is the annual quantity of food donated annually? What infrastructure is in place to support food donation (i.e. coolers)? Who collects the food? Where is the food donated?**

All Airport restaurants and shops are encouraged to participate in the Food Donation program but they must sign an agreement with our Food Donation partner organization. Participating tenants collect food from their store/restaurant to be donated in milk crates and transport it to the food donation refrigerators that are located near the central waste area. We donate primarily pre-packaged products (sandwiches, parfaits, salads), milk and other beverages, and baked goods. Tenants tape a Food Donation slip with the restaurant name and date to their milk crate of food and place it in the fridge, they then document the date, time, and temperature of the fridge. Our food donation partner picks up the food 3-4 days per week, documents the weight of food for each participant and transports it directly to schools and partnering food rescue agencies. Around a dozen tenants participate regularly and donate an average of 2 tons of food per month. The program began in 2013 and has donated over 116 tons of food equaling close to 175,000 meals.

Annually, the Harvest Food Donation Program donates about 20-25 tons of unsold, prepackaged, and perfectly edible food (such as sandwiches, yogurt parfaits, and fruit salads) from airport concessionaires to local non-profit community service organizations redistribute food to people in need. Currently, two concessionaires are participating in the program: Hudson Group and HMS Host. Food Donation Connections (<http://www.foodtodonate.com/>) helped established the infrastructure and process and connected the concessionaires with community service organizations. Unsold food is placed in red plastic bins and kept in the commissary. Pickup occurs at least once a week. A few years ago the program won the County Green Leadership Award. Here is the news release with more information about the achievement:  
<https://www.lawa.org/newsPrint.aspx?ID=2007>

Currently 6 concessions and Delta Sky Club donate food. The program started in last year. In its inaugural year, 25,222 pounds of food was donated. Currently, food is collected by the loading dock personnel and the Airport Authority staff. The Airport Authority did purchase a cooler for the project and has utilized coolers at the loading dock. The food is donated to a local food pantry.

HMS Host donate food to a local food bank (5 tons in a previous year).



**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**32) If yes, please describe your airport's food donation program. For example: Which tenants donate food? What is the annual quantity of food donated annually? What infrastructure is in place to support food donation (i.e. coolers)? Who collects the food? Where is the food donated?**

HMS Host donates food every Monday, Wednesday, and Friday through foodtodonate.com. The Salt Lake City Mission picks up the food (approximately 1,000 pounds a month). Red Onion Food Services donates food to the Utah Honor Flight, Sugar House Rotary, and the Kiwanis Club of Sugar House

HMS Host donates some of their unused food to a local food pantry. The food is picked up by a local vendor. I am not sure who it is at this time.

HMS Host to local Rescue Mission on a daily basis.

Local food bank picks up expired items on a daily basis from food court operator (Host)

Please contact me for additional information after October 16, 2017.

Primarily HMS Host participates in a local food donation operation. No special infrastructure is needed. A local food bank, picks up daily or the food is taken to the facility by local cabs.

Some concessionaires donate food.

Some concessionaires donate food.

The airport does not donate the food, however, we encourage tenants to utilize this waste reduction strategy. HMS Host has a donation program at the Airport, but we are unsure of the annual quantity. The Airport has recently renovated a receiving dock that has a walk in cooler. The idea is to set aside a portion of the cooler to make food donation programs easier for the tenants.

The Airport established the food donation program a few years ago. The Airport partnered with a local food bank for the distribution of collected food to those in need. With a state grant, the Airport purchased 9 coolers and strategically placed them throughout the concourses and at the new hotel. The Airport is on track to collect over 100,000 pounds of food for distribution.

The Airport has donated over 200,000 lbs. of surplus concession food to a local food bank for over 10 years through an airport organized partnership program. Between twenty and thirty EA concessionaire units donated over 56,000 lbs. of unsold food in the previous year through the airport's food donation program. That's equivalent to 876 meals per week over the entire year (at 1.25 lbs. per meal). Concessionaires are provided access to commercial grade coolers and freezers in a designated pre-security airport room. Donations are collected each morning by food bank volunteers, returned to the food bank and distributed to the community. This program demonstrates triple bottom line benefits by avoiding waste to landfill, costly disposal fees, and provides a consistent stream of nutritious meals to neighboring communities.

The Airport recently implemented a voluntary food donation program. The donated food is placed in one of the four "Food Donation" refrigerators and the food assistance agency staff pick up the materials daily.

The Regional Food Bank receives food

**32) If yes, please describe your airport's food donation program. For example: Which tenants donate food? What is the annual quantity of food donated annually? What infrastructure is in place to support food donation (i.e. coolers)? Who collects the food? Where is the food donated?**

We are partnering with concessionaires to collect food from their restaurants (ready-made & packaged sandwiches, wraps, salads, snack boxes, parfaits, fruit cups, and fresh sandwich buns) store it in a common refrigerator in the service corridor and the logistics company provides logistics by transporting the food from the terminal refrigerator to their walk-in refrigerator at their warehouse for pickup by a local volunteer organization that provides meals to needy organizations and groups. This program kicked off this year and has collected between 70 and 100 meals per day.

While the Authority focuses on capturing pre-consumer food waste throughout the terminals and restaurants at the airports, another method to reduce this waste stream is to catch any food that could be salvaged and donated to feed the community. Two main vendors at the airport helped the Authority achieve this goal by donating thousands of meals that would have otherwise been disposed or composted during the year. The Airport started tracking food donations in April of 2016. In the ten months that the Airport tracked the Food Donations Program, over 8,000 pounds of food was contributed. Based on the U.S. Department of Agriculture's estimate that the average meal weighs 1.2 pounds, that equates to over 6,900 meals that food and beverage concessionaires have donated to the USO and local Rescue Mission. In fact, food donations provided meals to about 4,200 services members during the USO's "Spirit of Giving" campaign that occurred the week of December 16 to 23, 2016. Also in 2016, the Authority incorporated food donations into our own corporate events, successfully donating 300 meals to a local agency to help feed the community. A food and beverage concessionaire at the Airport with ten permanent operations donates excess edible food to the USO via the Food Donations Program. In early January, a Logistics company began collecting the food and beverage concessionaire donations at a centralized location in each of the terminals. Weekly pick-ups occur early in the morning on Tuesday and Thursday, and deliveries to the USO occur early afternoon on the same days. The Airport Authority recently won one of the Food System Alliance's five inaugural "Emies Awards for Unwasted Food." The award is named after Congressman Bill Emerson, who helped champion the Good Samaritan Food Donation Act of 1996. The Act allows organizations and businesses to donate food without liability risks. Last year, the Airport Authority successfully worked with its concession partners to donate approximately 5,621 meals to help community members in need. Staff from the Environmental Affairs and Terminals and Tenants departments accepted the award at the Food Waste Solutions Summit.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>33) Does your airport collect and donate other items such as toiletries, supplies, or materials?</b>	
<i>Value</i>	<i>Count</i>
No	17
Yes	10
Not sure	7
<i>Total</i>	34

<b>34) If yes, please describe your airport's donation program for items other than food.</b>
Again, the Airport does not have a program, but tenants such as Hyatt collect toiletries for donation.
Clothing, metal detectors, USO. Surplus equipment goes for auction or donation; lost and found unclaimed items for donation.
DEN collects partial toilet paper rolls, abandoned suitcases, and clothing for the local non-profits.
I have already mentioned furniture and landscaping material in question 27. We also have drives for gently-used items like toys, eyeglasses, and school supplies throughout the year.
Lost and Found items are auctioned or donated; exploring opportunities to capture and donate TSA-collected food
Several Airlines collect toiletries for international flights and donate the materials. (United)
Some casework, furnishings, and other materials are routed for reuse/salvage via surplus program administered through other partner municipalities
Stroller to non-profit organizations, computers to school and various specialized airport equipment to other airports.
Tenants can donate unused food service products (plates, napkins, to-go boxes, etc.) through our food donation program. Occasionally we will also get toiletries or other supplies from first class kits.
The program is the same as the food program. At times, there are other items, and they get donated to the food pantry. In addition, the Airport Authority recently moved into a new building. Old, unused office supplies were collected and sorted for donations to local schools.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**Recycling**

<b>35) Does your airport practice any of the following recycling strategies? Select all that apply.</b>	
<i>Value</i>	<i>Count</i>
Mixed stream recycling	27
Single material recycling	16
Mixed waste collection (recyclables and waste comingled for future processing)	10
Other:	3
On-site material sorting	2
Other:	
Cardboard and organics collecting separately	
Food waste diversion to biogas	
We've conducted pilot projects to test manual mixed waste processing but had significant space and operational challenges	

<b>36) What is the annual quantity of material (by stream) recycled by your airport? Please indicate units.</b>
<b>Aluminum</b>
1.7 Tons
13 tons
7.4 tons
Co-mingled
included in metal category
Not Sure (19)
Not Recycled (4)



**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**36) What is the annual quantity of material (by stream) recycled by your airport? Please indicate units.**

**Food waste**

153.79

100,000 lbs

15 tons

19 tons

217 tons

284 tons

338.97 tons

354 tons

4472 tons

Not Sure (8)

Not Recycled (13)

**Glass**

0

12.7 tons

167 tons

193 tons

Co-mingled

Not Sure (16)

Not Recycled (7)

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>36) What is the annual quantity of material (by stream) recycled by your airport? Please indicate units.</b>
<b>Green waste</b>
173
263.5
1,000 tons
12.4 tons
18 tons
18.31 tons
342 tons
59 tons
Not Sure (11)
Not Recycled (10)
<b>Metal</b>
12.34
100 tons
100 tons
117 tons
15 tons
179 tons
250 tons
50K lbs
Co-mingled
Not Sure (16)
Not Recycled (2)

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>36) What is the annual quantity of material (by stream) recycled by your airport? Please indicate units.</b>
<b>Paper</b>
Co-mingled
145
203000 lbs
3.63 tons
34 tons
674 tons
705 tons
8.35 Tons
Not Sure (16)
Not Recycled (3)
<b>Plastic</b>
10 tons
113 tons
3 tons (film)
3.0 Tons
389 tons
500 lbs
Co-mingled
Not Sure (16)
Not Recycled (4)



**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**36) What is the annual quantity of material (by stream) recycled by your airport? Please indicate units.**

<b>Commingled recyclables</b>
90%
454.16
650
696.8
1814
100 tons
100 tons
158 tons
1584 tons
1651 tons
196.00 tons
2006 tons
2200 tons
221 tons
368 tons
686 tons
80 tons/year
862 Ton
932 tons
949.12 tons
98.9 tons
Not Sure (8)
Not Recycled (2)

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**37) Please list additional materials and quantities which are recycled at your airport.**

All quantities are for Calendar Year 2016. Grease - 131 tons

C&D: We diverted over 99% of our C&D waste (inert material like asphalt, soil and concrete, metal, etc.). The Airport has a new construction policy to divert at least 90% of the inert material, and 65% of the remaining project waste. Wood pallets: our logistics partner Bradford Logistics diverted / recycled / reused nearly 13,000 pallets (more than 160 tons) Green Waste: we diverted nearly 20 tons of green waste from the landfill Universal Waste and E-Waste: we diverted over 9 tons of batteries, e-waste and lighting (diverting over 4,000 lighting units from the landfill alone) A/C condensate: the 103,000 gallons of water that we've captured and reused is a new diversion metric"" we have grant funding to install water sensors to try to quantify the total available amount

Grease collection: via Bradford's program we diverted over 17,000 gallons of grease and by-product from kitchen drains and trash cans Food donations: the Airport and concessions donated nearly 7,000 meals to food banks and our USO facility Paint recycling: we recycled 462 gallons of paint via Amazon Paint Recycling"

Above quantities are 2016 data for Division of Aviation managed areas only. 2016 quantities below unless otherwise specified: 32 tons of C&D (highly variable year-to-year; may include some woody/green waste) 1,507 lbs. of universal waste (also highly variable - 20,774 lbs. in 2015) 2,030 lbs. of hazardous waste 19,192 lbs. of non-hazardous waste (includes both non-TSCA PCB and non-PCB-containing ballasts)

Batteries - 8 tons Electronics - 3 tons Oil - 30 tons Lamps - 2 tons Deicing fluid - 100,000 gallons Auctioned items - 100-200 items Pallets - 10 tons Construction Material - 200,000 tons (average)

C&D Tires Wood/pallets Electronics

Cardboard - 561 tons Metal - 137 tons Green Waste 625 Tons pallets - 120 tons reduced waste, food scraps and paper towel - 72 tons plastic wrap - 3 tons third party recycling by tenants - 660 tons reduced waste by

Comingled recyclables represent the material that goes to the Energy from Waste plant.

Fluorescent light tubes and rechargeable batteries and vehicle oils.

In 2016, the Airport recycled or diverted from the landfill: 2,006 tons of mixed recycling, 266 tons composting, 12 tons of glass, 26 tons of donated food, 2.5 tons of plastic film, and 58 tons of wood pallets.

In the previous year, the following materials and quantities were recycled at the Airport: Wood pallets: 5.72 tons Cooking grease: 11.61 tons Waste tires: 40.08 tons Grasscycle: 5760.173 tons Concrete and asphalt: 90,000 tons\* \*quantity of concrete and asphalt recycled are dependent on construction projects

large scrap : 73 tons Electronics : 8 tons

Lightbulbs, batteries, ballasts, electronic waste, printer cartridges

newsprint - 117 tons; HDPE - 21 tons; PET containers - 14 tons; wood - 47 tons ; toner cartridges - .2 T; construction waste - 10,500 tons; dirt 318 tons

none

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**37) Please list additional materials and quantities which are recycled at your airport.**

Oils (cooking, engine), tires, batteries, cell phones, carpet.

Only items tracked are refuse, compost, yellow grease, metal, and commingled recyclables. The total shown for commingled recyclables is 196.03 tons during 2015. Additionally, but not included in the value above there is 23.0 tons of recyclable grease that was collected for reuse during 2015.

Only items tracked are refuse, compost, yellow grease, metal, and commingled recyclables. The total shown for commingled recyclables is 696.78 tons during a previous year. Additionally, but not included in the value above there is 55.3 tons of recyclable grease that was collected for reuse during previous year.

Scrap metal.

Spent Aircraft Deicing Fluid

Styrofoam - 3 tons annual. Pallets - 54 tons annual.

Used cooking oil recycled to biodiesel: 71 tons; Terminal generated CDD recycled: 51 tons; compost: 425 tons; Food donation: 28 tons;

We do not track the amounts of cardboard or paper recycled.

We have tipping tons for recycling and for trash. But no details

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>38) What infrastructure is in place to support recycling?</b>			
	<i>Airport Owned</i>	<i>Provided by Airport Contractor</i>	<i>Provided by Tenant or their contractor</i>
<i>Recycling bins</i>	31	7	14
<i>Recycling dumpsters</i>	12	24	8
<i>Recycling compactors</i>	12	14	2
<i>Recycling balers</i>	9	5	0
<i>Scales</i>	2	6	0
<i>Hauling equipment (designated trucks or trailers)</i>	7	22	6

<b>39) Please describe other recycling infrastructure not listed above.</b>
Airport-owned compactor access control and usage monitoring system to support Pay-As-You-Throw type solid waste utility administration.
Food donation coolers and composting containers for restaurants are provided by the Airport. Compost staging containers are supplied by contractor.
Glycol is recycled via collection by airport staff and airport equipment, unloading into contractor provided trailer, and hauled to the recycling facility by contractor. This process often results in a refund to the airport, but varies on the concentration of the material collected.
Grease collection tanks, bucket wash area to reuse/donate 5 gallon buckets.
None
Paper shredder
Plastic film baler (Authority); E-Waste / U-Waste collection at Sustainability Fairs; Light Bulb Collection Program for concessionaires; Battery receptacles around employee common areas
Scales on haulers' properties.
The Department of Aviation owns grease traps and storage containers. The grease in the storage containers is recycled.
Waste oil drums and tanks. Cooking grease dumpsters.
We have some dump trucks that are used to move landscaping wastes that are ultimately sent for recycling.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**Composting**

<b>40) Does your airport practice any of the following composting strategies? Select all that apply.</b>	
<i>Value</i>	<i>Count</i>
None of these	14
Pre-consumer (back of house) food waste composting	12
Pre-consumer (back of house) coffee ground composting	11
Green/yard waste composting	10
Back of house paper towel composting	6
Airport employee food composting	6
Other:	5
Public paper towel composting	4
Post-consumer (public) food waste composting	3
Other:	
Conduct individual restaurant waste assessments to provide customized recommendations	
Food waste is used for biofuel	
Marriott Hotel composts food waste (not sure if pre or post-consumer)	
mixed waste composting	
Post-consumer food waste collection at sit down restaurants	

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>41) What is the annual quantity of material composted (including units)?</b>
Unknown, previously part of concessionaire contract
0. We are starting the program next month
153.79 tons
197 tons
284 tons
354 tons
4,000 tons
425 tons
671
856 tons
In 2016, 266 tons
Not sure
Through the continued participation of Authority staff and every food and beverage concessionaire at the airport, 338 tons of food waste were collected and taken to the Miramar Greenery to be composted into mulch in 2016 – an increase of 20 tons, or seven percent from 2015 amounts.
unknown

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>42) What infrastructure is in place to support composting?</b>			
	<i>Airport Owned</i>	<i>Provided by Airport Contractor</i>	<i>Provided by Tenant or their contractor</i>
<i>Composting bins</i>	8	3	7
<i>Composting dumpsters</i>	4	8	0
<i>Composting scales</i>	0	3	0
<i>Food waste recycling equipment (digester or vessel composter, for example)</i>	0	1	1
<i>On-site composting</i>	1	0	0
<i>Hauling equipment (designated trucks or trailers)</i>	2	12	0
<i>What infrastructure is in place to support composting?</i>	0	0	0
<i>Airport-owned carts and compactors: What infrastructure is in place to support composting?</i>	1	0	0
<i>None: What infrastructure is in place to support composting?</i>	1	0	0
<i>Organics compactor: What infrastructure is in place to support composting?</i>	1	0	0

<b>43) Please describe other composting infrastructure not listed above.</b>
All airport managed compost is collected by a local composter and transported to their facility for composting. Some flight kitchens may compost in various amounts but that information is unavailable to Airport staff.
Cart and container wash facilities (rooms) provided near organics compactors.
Chippers for mulching yard waste
Clarification: The Airport sends its food waste to a digester off-site.
Composting is challenging in our community for a variety of logistical, economic, and dry desert environment conditions.
do not have
No composting infrastructure.
Not Applicable

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**Energy Recovery**

<b>44) Does your airport send waste to a facility that converts it into energy?</b>	
<i>Value</i>	<i>Count</i>
No	18
Yes	13
Not sure	3
<i>Total</i>	34

<b>45) If yes, what material or stream is converted to energy?</b>
100% municipal solid waste from Division of Aviation collections. Unknown where tenant waste is sent/processed.
All waste oil collected from concessions is converted to renewable diesel fuel. Also the hauler generate some natural gas from biodegradable waste.
Collected Propylene Glycol deicing material sent to POTW for anaerobic treatment and methane harvesting for energy use at treatment plant.
Fats, oil and grease (FOG) recovery for bio-diesel trucks
food
Food waste
food waste
Food waste is converted to either renewable natural gas or electricity. The landfill used by Airports performs methane gas recovery for electricity production.
Landfill gas collection system
Material that cannot be recycled (Al, plastic, paper, cardboard) that are collected during housekeeping activities.
MSW
Municipal solid waste
The City's wastewater division captures methane gas and converts it to energy at the wastewater treatment facility. In addition, heat from the methane conversion process is used to facilitate the sludge digestion process.



**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>46) If yes, what is the annual quantity of material converted to energy (including units)?</b>
100% of MSW, 2016 = 7619.59 Tons
15 tons
2016 - 77,463 lbs. of waste oil was collected from the Airport to be converted to renewable diesel fuel.
284 tons of food waste sent to biogas plant. Commercial food waste collected in the area is taken to the plant. NOTE: Commercial food waste is "Food Only" and may not include any compostable products including paper towels/napkins.
862 Tons/year average.
About 1,600 tons in 2016 (Division of Aviation waste only)
About one ton per week. This project began about six months ago and is a pilot project.
The Airport's landfill bound waste (7,615 tons in 2016) is mixed with other landfill contributions. However, the Landfill's Gas-to-Energy facility generates 15.4 million therms of natural gas annually.
The Authority was able to collect and recycle 13,519 gallons of grease and 4,216 gallons of by-product from airport services. The Authority looks forward to streamlining the Grease Collection Program in 2017 to recycle more and more grease produced from food services at the Airport.
Unknown
Unknown.
Unsure

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**Disposal**

<b>47) What infrastructure is in place to support waste disposal? For this project, disposal is defined as placement in a landfill or incineration without energy capture.</b>			
	<i>Airport Owned</i>	<i>Provided by Contractor</i>	<i>Other</i>
<i>Garbage cans</i>	33	3	8
<i>Garbage dumpsters</i>	13	23	1
<i>Trash compactors</i>	14	14	1
<i>Trash balers</i>	2	4	0
<i>Scales</i>	1	7	0
<i>Hauling equipment (designated trucks or trailers)</i>	6	21	1
<i>Other</i>	2	1	1
<i>Total</i>	71	73	12

<b>48) Please describe other garbage infrastructure not listed above.</b>
All MSW is transported to an energy recovery facility
Authority owns a plastic film baler, ramp sweepers, rubber removal (low-boy dumpster)
grease bins
Some garbage cans are owned by tenants
Street sweepers collect debris and dispose of as trash
The Airport provides garbage, recycling, and compost collection bins in public areas (compost in food courts and back-of-house only), sterile, and tenant back-of-house areas.
The Department of Aviation owns grease traps and storage containers. The grease in the grease traps is considered refuse.
The Department of Aviation owns grease traps and storage containers. The grease in the grease traps is considered refuse.
We have dumpsters for our Maint, Fire and Admin offices. We have small garbage cans on our general aviation ramps.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**49) What is the final disposition of waste generated at your airport that is not recycled, composted, donated, or otherwise diverted? For example, it is disposed of at a local landfill or it is transferred to a landfill in the region, etc.**

Disposed at a local landfill.

Waste is taken to a local transfer station where it is then trucked to a landfill about 140 miles away

All Division of Aviation materials are either recycled or sent to waste to energy (WTE). Our concessions, airlines, and other tenants' waste may not be 100% diverted from landfills - it is unknown where trash is sent from these sources.

Airport waste that is not otherwise diverted is transferred to a regional landfill.

Salt Lake County Landfill

All garbage is back-end sorted at a material processing facility, in which recyclables and compostables are extracted. Residue is then disposed locally at the landfill.

Landfill

Incinerator, Landfill, Material Recovery Facility

Waste-to-Energy incineration

The landfilled waste is taken to a disposal site 30 miles away from the Airport. The disposal site is owned by the City & County.

local landfill

landfill

it is transferred to a landfill in the region

local landfill

local landfill owned by the City

Disposed to a landfill in the region

Local landfill.

Disposed at Landfill, owned and operated by County

Local landfill

all waste is sent and disposed of at the City owned Landfill

Regional landfill within 50 mile radius of the airport, per contract.

Regional landfill within 50 mile radius of the airport, per contract

Disposed of at a local landfill

Landfill in the region.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**49) What is the final disposition of waste generated at your airport that is not recycled, composted, donated, or otherwise diverted? For example, it is disposed of at a local landfill or it is transferred to a landfill in the region, etc.**

local landfill

It is disposed of at a local landfill or transferred to a landfill quite a distance away.

Materials not recycled or prohibited from the energy from waste plant are hauled to a municipal solid waste landfill located within 5 miles from the Airport.

Municipal solid waste is either taken to a transfer station, intermodal facility or direct to an incinerator. Wastes taken to transfer stations or intermodal facilities may be taken to out-of-state landfills or to an in-state incinerator.

Local landfill

Community landfill.

Local landfill.

Local Landfill

local landfill

unknown; post off-site sorting facility

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**Program Organization**

<b>50) Which of the following best or most closely describes your airport's waste management program?</b>	
<i>Value</i>	<i>Count</i>
Centralized - The airport provides containers for the collection of waste, recyclables, compostables, and other streams and contracts for transportation by a single hauling company.	25
Decentralized – The airport provides containers and contracts hauling for waste materials in airport operated spaces. Airlines, concessionaires, retail shops, and other tenants manage the waste from their leased areas (supply their own containers and contract directly for hauling).	9
<i>Total</i>	34

<b>51) Please explain how your program differs from the scenario you selected above.</b>
A portion of the previous concessions (food and retail) contract has been brought into the Department of Aviation contract, while a portion of the concession contract remains and airlines and other tenants have separate contracts.
A portion of the previous concessions (food and retail) contract has been brought into the Department of Aviation contract, while a portion of the concession contract remains and airlines and other tenants have separate contracts.
Actually a hybrid of the two. More than one waste hauling firm. Tenants manage their own waste and transfer to Airport provided recycling area for removal.
Airport provides central facilities; concessions are responsible for taking their waste to the conveniently located facility and placing their waste in the appropriate container - mixed waste; mixed recycling; food waste. Fixed base operator tenants and other non-Terminal leases manage their own waste separately.
Airport provides containers for waste and recyclables in airport employee and public areas of the airport, hauled to the waste or recycle dumpsters or compactors. Concessionaires, retail shops, and airlines provide their own waste and recycle containers and dispose of in airport provided waste or recycle dumpsters or compactors. These dumpsters and compactors are contracted for pick-up by the City solid waste department where they haul to the landfill or recycling sorting facility (co-mingled facility).
Doesn't differ
It is a mixture of centralized and decentralized. Recycling at the airport authority is done by a separate contractor than waste. Compost is a different contract. Each terminal has its own contract for waste and recycling. However, these services or provided in leases. Containers may be owned by the airport or by tenant.
Most of the tenants allow the Airport to manage their waste. There are a few selected locations that have their own waste hauler.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**51) Please explain how your program differs from the scenario you selected above.**

Most tenants subscribe to the Airport's trash and recycling services (i.e.: concessionaires, retail, airlines etc.). Only some tenants do not subscribe to our services such as Sky Chef, etc.

Recycling dumpster and trash compactors are for the use of both the airport and its tenants. One tenant at the airport and fixed based operators supply their own container or contract directly for hauling.

Tenants provide a few containers, but for the most part contract with the airport janitorial contractor to dispose of waste in airport provided dumpsters or (in the case of airline aircraft passenger generated waste) dispose of the waste directly into airport provided dumpsters.

The Airport collects the waste from the "common areas" where a centralized compactor/roll-off is staged so that multiple tenants can use it. The leased areas, such as car rentals and airline hangars, manage their own waste.

The airport is covered under the City's contract with a single hauler for garbage and recycling collection and processing.

The Airport provides centralized waste management for terminal and airfield operations. However, some airfield operators and airport support facilities supplement with additional infrastructure or manage their own waste independently.

The airport supplies the infrastructure, but does not enter leased spaces to retrieve tenant waste

The majority of airport terminal waste is centralized, with the exception of the food/beverage concessionaire providing their own waste hauling contracts. Outside the terminal building, each tenant is responsible for their own waste contract.

There are a few smaller tenants that use our recycling compactors for recyclable materials.

There are parts of the airport that have decentralized waste management practices and programs, such as the cargo areas (tenants use a different service provider), terminal areas not managed by Port Authority (provide their own recycling bins), and construction areas (contractors are responsible for diverting C+D debris from landfills)

We contract for the waste hauling for the majority of concessionaires/tenants

Within the terminal space the airport provides Material Recover Areas to deposit waste, recyclables/compost/other streams and transported by Airport's hauler. In leased areas on the Airport campus but not within the terminals the tenant manages their waste by contracting a hauler and provide their own bins and other containers.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**Airlines**

<b>52) Who manages waste generated by the airlines operating at your airport?</b>	
<i>Value</i>	<i>Count</i>
Combination	17
Airlines manage	7
Airport manages	6
Other:	3
Not applicable	1
<i>Total</i>	34
Other:	
Airport manages airline waste generated at terminals. Waste generated at airline maintenance hangars, cargo facilities, admin buildings, etc. is managed by airlines.	
Cabin cleaners	
Waste Hauler	

<b>53) Do the airlines operating at your airport participate in the recycling program?</b>	
<i>Value</i>	<i>Count</i>
Yes - Some	20
Yes - Most	9
No - None	2
Not sure	2
<i>Total</i>	33

<b>54) Do the airlines operating at your airport recycle materials from deplaned waste?</b>	
<i>Value</i>	<i>Count</i>
Yes - Some	20
Not sure	7
Yes - Most	6
<i>Total</i>	33

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**Food and Beverage Operators and Retail Stores**

<b>55) Which of the following companies operate food and beverage spaces and/or retail shops at your airport? Select all that apply.</b>	
<i>Value</i>	<i>Count</i>
HMSHost Corporation	24
The Paradies Shops	19
Hudson Group	18
Other:	12
SSP Group	10
World Duty Free Group	9
Delaware North	6
Airport Concessions	4
Pacific Gateway Concessions	4
The Marshall Retail Group	3
Westfield Corporation	3
Not sure	3
Areas	2
Marketplace Development	2
OTG EXP	2
Tastes on the Fly	2
AirMall/Fraport USA	1
Other:	
Aerianta (Duty free)	
Andale Management, RUI, Latrells, majority of PDX restaurants are local companies.	
Creative Foods Group	
Dos Amigos Joint Venture, LLC, Skyport, Mission Yogurt, Mc Donalds, Host International, Inc., A wine Bar, A & A Restaurant of Republic Plaza Corp, Trugoy, Inc., LS and Partners, LLC , Host International, Inc., Ayala 's, Inc., Avila Retail Development & Management, LLC,	
HBF	
High Flying Foods, Mission Yogurt, Stellar, Spa Didacus	



**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**55) Which of the following companies operate food and beverage spaces and/or retail shops at your airport? Select all that apply.**

Hojeij Branded Foods
Paradies Lagardere
Tailwind/Emerald City News and Gifts
There is a large prime operator and numerous smaller company's operate multiple or individual concessions.
Vantage Airport Group

**56) Who manages waste generated by the food and beverage spaces and retail shops at your airport?**

<i>Value</i>	<i>Count</i>
Combination	13
Airport manages	9
Operators manage	8
Other:	2
Not applicable	2
<i>Total</i>	34

Other:

Airport Custodian if they are contracted by the vendors
Waste Hauler

**57) Do the food and beverage and retail operators at your airport participate in the recycling program?**

	<i>Food and Beverage</i>	<i>Retail</i>
	<i>Checks</i>	<i>Checks</i>
Yes - Most	21	21
Yes - Some	9	5
No - None	1	2
Not sure	2	4
<i>Total</i>	33	32

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>58) Do the food and beverage operators at your airport donate or compost food?</b>		
	<i>Donate</i>	<i>Compost</i>
<i>Yes - Most</i>	7	6
<i>Yes - Some</i>	12	8
<i>No - None</i>	6	10
<i>Not sure</i>	6	4
<i>Total</i>	31	28

Other Tenants

**59) Besides airlines, food and beverage operators, and/or retail stores, are there other tenants that contribute significantly to the waste stream at your airport? Consider rental car companies; flight kitchens; Fixed Base Operators; Specialized Aviation Service Operations; cargo carriers; charter operations; Aircraft Rescue and Fire Fighting; etc.**

<i>Value</i>	<i>Count</i>
Yes	19
No	13
Not Sure	2
<i>Total</i>	34

**60) If yes, please describe other tenants that contribute significantly to the waste stream at your airport and how their waste is managed.**

All tenants generate solid waste.

cargo carriers and flight kitchens

Fire Departments, air cargo. Airline hangars, flight kitchens, and car rentals. Some of these use the Airport's common use areas which are included in the Airport's metrics. Others, such as the car rentals and flight kitchens, use their own contracts.

Fix base operators, cargo carriers, charters, rental car companies,

Fixed Base Operator and Rental Car Center manage own contracts; ARFF, cargo carriers, and USO are part of the airport's contract

I'm not sure really how the waste is handled at these facilities. We do have recycling infrastructure at the fire stations.

Not sure.

Rental Car Cargo tenants

Rental car companies contribute significantly to the waste stream at the quick turn facility where airport provided dumpsters are positioned for waste.

Rental car companies, flight kitchen, cargo carriers Currently, these tenants manage their own waste under separate contracts.

Rental car companies, Marriott Hotel, Cargo Carriers (FedEx/UPS, others), FBO, Federal agencies, Police, Fire, Fire Training Facility, corporate hangars, leased office buildings, etc. Division of Aviation handles Fire/Police/Maintenance/Warehouse (city facilities) and some TSA waste from office spaces. All other tenants manage their own waste/recycling programs.

rental car companies; flight kitchens; Fixed Base Operators; Specialized Aviation Service Operations; cargo carriers; charter operations; Aircraft Rescue and Fire Fighting, warehousing, manufacturers, construction

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**60) If yes, please describe other tenants that contribute significantly to the waste stream at your airport and how their waste is managed.**

Rental Cars and FBO

Specialized Aviation Service Operations. The airport provided recycling bins and collection services.

Sterilized international waste is disposed in our waste stream.

The Aircraft Rescue and Fire Fighting station, fixed base operators, cargo carriers, and rental car companies are contributing to the waste stream but are not tracked because they are not associated to the Department of Aviation contract.

The Aircraft Rescue and Fire Fighting stations are within the Department of Aviation contract. However, one terminal, flight kitchens (both on/off airport), fixed base operator, cargo carriers, and rental car companies are contributing to the waste stream but are not tracked because they are not associated to the Department of Aviation contract.

Though still technically airlines, Ground support services contribute significant quantities of waste from airline cabin cleaning. Flight kitchens are the same.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**Planned Enhancements**

<b>61) Are you considering implementing new waste management strategies in the near term (1-2 years)?</b>	
<i>Value</i>	<i>Count</i>
Yes	27
Not Sure	6
No	1
<i>Total</i>	34

<b>62) If yes, please describe any strategies you are considering for the near term (1-2 years). Why are you considering these strategies (i.e. capacity issues, adding additional material streams to recycling, reduce carbon footprint, etc.)?</b>
adding additional waste/recycle stations throughout airport
As commercial service at our facility starts mid next year we are in discussions with the developer/operator on waste management strategies.
As highlighted by our current master plan, there are many efficiencies in our waste streams at the airport that we can implement.
Better contracts.
Capacity challenges and space constraints are forcing us to look at creative material management strategies or capital projects.
Composting
composting - capacity; space limitations, waste diversion wood waste (pallets) - wear and tear on equipment, efficient handling, waste diversion CNG waste vehicles - emissions reductions
Considering developing a written plan
Creating a Zero Waste Plan as part of the broader Sustainability Management Plan to increase diversion and sustainable practices, and reduce carbon footprint
Expanded recycling due to waste diversion,
Food Scraps Collection, education, a Green Concessions/Business Program
Improved food waste diversion and recycling; baling cardboard; improving deplaned waste recycling; guest outreach and education to improve source separation; outreach to FBOs

**62) If yes, please describe any strategies you are considering for the near term (1-2 years). Why are you considering these strategies (i.e. capacity issues, adding additional material streams to recycling, reduce carbon footprint, etc.)?**

Increasing our recycling rate is one of our sustainability goals and the City has also set goal to be zero waste by a certain year. We would like to add new containers, new signage, etc. to replace outdated receptacles and to expand to new areas currently not being served (and also to have a more uniform look for receptacles). We are looking at purchasing or installing sinks at checkpoints or other methods in the near term to capture liquids before entering trash/recycling streams and to address safety concerns with heavy lifting of trash/recycling bags.

New container labels using standardized Recycle Across America graphics, waste management program assessment.

Public outreach to increase material diversion and reduce contamination. Provide durable dishes in food courts to reduce waste generation and increase user satisfaction. Implement food waste reduction strategies based on our Food Optimization Study.

Review waste management data from vendor invoice and spreadsheet to find opportunities for improving data and diversion opportunities. Enforce the contractor to track more precisely the amount of waste rather than counting tipping activities. Install recycling and compost containers at locations that can utilize them. Take action to make recycling and composting easier.

Review waste management data from vendor invoice and spreadsheet to find opportunities for improving data and diversion opportunities. Enforce the contractor to track more precisely the amount of waste rather than counting tipping activities. Install recycling and compost containers at locations that can utilize them. Take action to make recycling and composting easier.

Still under consideration.

The Airport has just applied for a grant through the Conservation Corp to participate in food rescue. This would allow all concessions to donate food. We are estimated to give 3,120 sandwiches and 1,560 salads a year. We are also planning to install food waste compactors in one of our Terminals. We are considering a furniture donation program.

The Airport is considering the strategies below not only because we have a zero waste goal to reach by a certain year but also based on our continued commitment to environmental leadership, natural resource stewardship, and climate change action, and due to capacity limitation. In the context of these goals and objectives, the Airport is looking at every opportunity to partner and outreach to ensure our goals are achieved. Our strategies include: - Certifying all tenants and airport spaces under the Green Business Program -Modifying or adding additional Material Recovery Areas throughout our campus - Updating our current receptacles in public space areas to include clear, concise messaging and recognizable lids -Ensuring that messaging throughout Airport campus, public areas, tenant spaces, MRAs are all consistent - Rolling out new receptacles - Upgrading compactor, sensor, and access technologies

The Airport is implementing a glass-only collection system. The Airport will use a private contractor to capture all the glass generated at food and beverage concessions. This glass will be transported to a glass processing center operated by the same contractor. This is necessary due to the limited amount of glass being recycled by the Airport concessionaires. Only 25% of concessionaire employees have access to ramp-level recycling containers, due to TSA regulations. By implementing a glass-only recycling program, the Airport can achieve a much higher glass recycling rate.

**62) If yes, please describe any strategies you are considering for the near term (1-2 years). Why are you considering these strategies (i.e. capacity issues, adding additional material streams to recycling, reduce carbon footprint, etc.)?**

The airport will implement the principle of the paying generator for concessionaires: they will pay more for waste collecting than for recyclables and organics.

To be more environmentally sustainable and hopefully reduce costs.

We are considering these strategies: expand food waste recycling program in the airport terminal; improve bin signage; and improve data reporting and quality. State and local climate change policies call for the diversion of organic waste from the landfills, so there is a lot of attention on food waste. There is a new state law requiring passed in recent years requiring diversion of food and organic waste by businesses, cities, and counties. Clear and interesting signage is important because it makes recycling easy for people to do and reduce contamination. Why focus on data? One reason is "you can't manage what you don't measure". It has been difficult to get tenants to report their data on-time, complete, or at all. We also want to improve data quality, make it simpler, easier to read, while meeting all reporting requirements. If we don't improve our data, we may be over reporting or underreporting our waste numbers.

We are starting a compost program within weeks. This is driven by our sustainability goals. We are also revamping our recycling program, in part by getting new bins. This is happening within months. This is, in part, from our sustainability goals, as well as passenger feedback.

We need to address the contamination issue. A solution has not been selected. Solutions could include managing the problem at the bulk containers, or could involve scaling back public area recycling in a way that generates lower volumes of cleaner recycled products.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>63) Are you considering implementing new waste management strategies in the long term (3+ years)?</b>	
<i>Value</i>	<i>Count</i>
Yes	20
Not Sure	11
No	2
<i>Total</i>	33

<b>64) If yes, please describe any strategies you are considering for the long term (3 or more years). Why are you considering these strategies (i.e. capacity issues, adding additional material streams to recycling, reduce carbon footprint, etc.)?</b>
Add additional material streams and continue with goal of becoming more environmentally sustainable.
An anaerobic digester is currently under construction near the airport for the purpose of organic waste disposal. The airport is looking at the feasible of taking a majority of the organic waste to this facility for production of biogas.
Considering relocating our waste management facility to an off-terminal facility and having staging areas located throughout the terminal to collect and transport waste.
Continuation of short term solutions
Creating a Zero Waste Plan as part of the broader Sustainability Management Plan to increase diversion and sustainable practices, and reduce carbon footprint
Energy recovery from waste valorization. The technology is not defined yet).
Expand the existing pre-consumer composting in the Terminals to include post-consumer/passenger (public) food waste composting in the Terminals.
Expand the existing pre-consumer composting in the Terminals to include post-consumer/passenger (public) food waste composting in the Terminals.
Expand the recycle program, possibly add a hazardous waste program
Food waste recycling (when facilities become available), waste minimization for Port Authority-controlled facilities, waste composition study, work with airlines to expand recycling, explore waste hauling consolidation (with tenants), work with concessionaires to reduce packaging and minimize plastic bag use (or shift to paper).
increase waste diversion, implement composting
Reported success of the Airport's mixed waste processing strategy has inspired us to begin exploring opportunities for a consolidated on-site waste management facility with these capabilities. Early conceptual planning discussions are underway and will be developed further as planning objectives and opportunities progress.



**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**64) If yes, please describe any strategies you are considering for the long term (3 or more years). Why are you considering these strategies (i.e. capacity issues, adding additional material streams to recycling, reduce carbon footprint, etc.)?**

Same as above Why? To reduce airport footprint at the landfill and carbon footprint; recycle more.

Still under consideration.

Strategies considered include technology based compactor and receptacle sensors and possibly an onsite sorting facility.

TMP will change our way of thinking and operating

We are considering more centralized approaches to increase our recycling rate and consolidate equipment and services (compactors taking up valuable space airside and landside, numerous vendors needing access to airfield, etc.). One approach would be an onsite sorting (Mixed Waste Processing) facility, but is dependent on tenant buy-in, market forces, finding a company willing to operate, etc.

We are considering these strategies: expand food waste recycling program to include other organics like compostable paper - napkins and paper towels; establish and implement an organization-wide EPP policy and program; and add capacity to existing program (more equipment and staff). Organic waste diversion is difficult. There are few facilities available and close by where we can send the material for processing. It is also an expensive process from beginning to end. For our food waste recycling pilot program - the tipping fee at the anaerobic digester we are sending our food waste is at least 30% more than tipping fee for recycling or landfill. We had to get new bins to store the food waste and add an extra daily collection route. But diverting organic waste from the landfills is key to reducing our carbon footprint and is required by state law. A robust and comprehensive EPP policy and program will help eliminate waste before it is created, plus there are a lot of potential cost savings. Increasing capacity needs funding and the hiring process can be slow. But the program can't run on bare-bones. It needs sufficient labor and equipment to handle an increasingly amount of materials in an efficient and safe manner.

zero waste - waste diversion, reduce carbon footprint

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**Communication, Education and Training**

<b>65) How is information about waste and recycling communicated to passengers? Select all that apply.</b>	
<i>Value</i>	<i>Count</i>
Container labels	30
Signage	20
Other:	7
Public Address (PA) System announcements	3
Other:	
In the near future we plan to deploy an Airport webpage dedicated to these topics	
Outreach, press stories, social media	
social media and website, Green Concessions Program	
website	
Will soon be via signage	
Window Clings highlighting airfield recycling containers at gate hold rooms; Recycling program animation on CNN monitors in gate hold rooms; &let; coming soon: ibeacon mobile device messages highlighting recycling and other sustainability initiatives;	

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>66) How is information about waste and recycling shared with employees? Select all that apply.</b>	
<i>Value</i>	<i>Count</i>
Container labels	30
Signage	28
On-boarding/new employee training	16
Emails	16
Recurring/regular training	11
Other:	10
Airport employee recycling training has been performed once.	
Airport wide	
Intranet	
Newsletter	
Periodic newsletters, internal website updates, social media messages	
Presenting at monthly manager meetings	
Survey, newspaper publication	
Sustainability Fairs, Lunch & Learns, social media	
We run two events each year, Earth Day and America Recycles Day. Most of this info, however, is geared towards residential recycling.	
website, outreach at events	

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>67) How is information about waste and recycling communicated to tenants? Select all that apply.</b>	
<i>Value</i>	<i>Count</i>
Container labels	29
Signage	26
Training	23
Other:	11
Airport wide	
annual tenant meeting	
Emails; Regular presentations at monthly manager meetings; Airport guide to recycling brochure; Recycling requirement summary and inspections	
Lease agreements	
Meetings	
newspaper	
periodic meetings	
Presenting at monthly manager meetings	
Speak directly about recycling efforts	
Sustainability Fairs, web and social media, monthly meetings, Green Concessions Program	

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**Roles and Responsibilities**

<b>68) Which departments/divisions administer the waste and recycling contract(s)? Select all that apply.</b>	
<i>Value</i>	<i>Count</i>
Facilities	17
Environmental/Sustainability	14
Other:	12
Purchasing/Procurement	8
Other:	Count
Concessionaires	2
Maintenance	2
City Environmental Services Dept.	1
City Procurement	1
Commercial development and maintenance divisions at LAWA	1
ENV manages recycling service contracts; Facilities and Infrastructure manages solid waste utility and service contracts; We collaborate with the City who maintains solid waste contracting authority within our jurisdiction	1
Parks Maintenance	1
Planning, Design and Construction	1
Terminal Operations	1
Terminals & Tenants	1

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>69) Who is responsible for janitorial services (specifically servicing waste and recycling containers) at the airport? Select all that apply.</b>	
<i>Value</i>	<i>Count</i>
Airport janitorial contractor(s)	25
Airport staff	20
Tenant janitorial contractor(s)	14
Other:	4
Other:	<i>Count</i>
Concessionaires	2
Waste contractor	1
construction contractors	1

<b>70) Who is responsible for the collection and transfer of waste from the airport? Select all that apply.</b>	
<i>Value</i>	<i>Count</i>
Private waste hauling contractor(s)	31
City or County department	6
Other:	1
Private waste hauling contractors for certain areas of the airport	

<b>71) Who is responsible for the collection and transfer of recyclables from the airport? Select all that apply.</b>	
<i>Value</i>	<i>Count</i>
Private recycling company(ies)	29
City or County department	6
Other:	4
Airport staff	
Airport staff	
combination of both	
Private waste hauling contractors for certain areas of the airport	

ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary

Economics

72) What is your airport's approximate annual total cost for waste to landfill?	
<i>Count</i>	<i>Response</i>
2	\$0.00
1	\$1,050,000.00
1	\$1,600,000.00
1	\$1,000,000.00
1	\$2,000,000.00
1	\$4,050.00
1	\$10,000.00
1	\$19,000.00
1	\$30,000.00
1	\$40,000.00
1	\$75,000.00
1	\$125,000.00
1	\$144,387.00
1	\$150,000.00
1	\$174,000.00
1	\$336,000.00
1	\$344,604.00
1	\$390,000.00
1	\$500,000.00
1	\$600,000.00
1	\$630,000.00
1	\$700,000.00
1	\$850,000.00

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>73) What is your airport's approximate annual total cost for recycling?</b>	
<i>Count</i>	<i>Response</i>
3	\$0.00
1	\$1,800.00
1	\$1,000,000.00
1	\$3,300.00
1	\$5,000.00
1	\$8,000.00
1	\$12.00
1	\$13,000.00
1	\$17,706.00
1	\$18,000.00
1	\$28,000.00
1	\$75,000.00
2	\$100,000.00
1	\$110,000.00
1	\$120,000.00
2	\$125,000.00
1	\$160,000.00
1	\$336,000.00
1	\$400,000.00



**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>74) What is your airport's approximate annual total cost for composting?</b>	
<i>Count</i>	<i>Response</i>
10	\$0.00
1	\$10,508.00
1	\$10,934.00
2	\$10,000.00
1	\$24,000.00
1	\$25,982.00
1	\$35,000.00
1	\$37,000.00
1	\$70,000.00
1	\$150,000.00
1	\$187,000.00
1	\$700,000.00

<b>75) Please indicate which of the following elements are included in the values provided above. Select all that apply.</b>	
<i>Value</i>	<i>Count</i>
Scheduled material pick up	24
Transfer to disposal site/recycler	23
Tipping or processing fee	23
Container rental and service	21
On-call material pick up	19
Direct labor	13
Educational programs	5
Program evaluations	4
Other:	4
Unknown	
Waste characterization study	

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>76) What is your airport's approximate annual total cost of other waste management elements not captured above in landfill, recycling, and composting costs?</b>	
<i>Count</i>	<i>Response</i>
6	\$0.00
1	\$1,500.00
1	\$77,000.00
1	\$225,000.00
1	\$315,000.00
1	\$850,000.00

<b>77) Which departments fund waste management in their operating budgets?</b>
Airport Authority
All departments
Aviation only
Building maintenance
Capital Development (Environmental - Planning) Facilities Maintenance (Pavement and Grounds, Custodial, FM contract, etc.)
Environmental
Environmental Services
Facilities
Facilities
Facilities
Facilities
Facilities
Facilities
Facilities (Asset Management)
Facilities (going back to question: What is your airport's approximate annual total cost for composting? - we have no historical data available, starting within the Department of Aviation contract as of this year; going back to question: What is your airport's approximate annual total cost of other waste management elements not captured above in landfill, recycling, and composting costs? - question is vague. We don't believe we have other expenses beyond janitorial expenses, too difficult to quantify now, for municipal solid waste).

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>77) Which departments fund waste management in their operating budgets?</b>
Facilities and Infrastructure
Facilities and Planning and Environmental
Facilities Department funds all custodial staff and all other maintenance requirements, which perform Commission related waste collection tasks. Planning, Design and Construction funds the waste hauling and processing contract.
Facilities Management
facilities, airfield
Facilities.
Finance through the Custodial contract which is managed by Building Services.
Maintenance
Maintenance
Maintenance for waste, environment & sustainability for recycling/composting and education
Maintenance, Central Warehouse, Planning and Environment
Operations and Maintenance
procurement information technology design, code, construction customer experience environmental affairs
Terminal operations, rental car facility.
Terminals & Tenants
Waste fees are in general operating budget.
We do not pay for disposal

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>78) How are waste management costs passed on to airlines; food and beverage concessionaires; retail shops; and other tenants? Select all that apply.</b>	
<i>Value</i>	<i>Count</i>
Included in lease rate	26
Direct bill	6
Other:	6
Not sure	4
Other:	
airline rates and charges	
Direct bill with variations between concessions and airlines based on pay-as-you-throw rate determination	
Included in lease rate	
Not included	

<b>79) Do you receive any rebates, incentives, or refunds for recycled materials?</b>	
<i>Value</i>	<i>Count</i>
Yes	21
No	10
Not sure	3
<i>Total</i>	34

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>80) If yes, please describe the rebates, incentives, or refunds.</b>
30\$ mt refund for cardboard, 260\$ mt refund for metals
50% of baled OCC sold to market is credited on the monthly invoice.
Commodity rebates based on current market value for cardboard and commingled recyclables, minus a processing fee. Overall our recycling program (cardboard, glass, commingled) pays for itself and makes about \$10,000 a year net total.
glycol recycling refund
Lower tipping fee than for trash
metal - approximately \$7,000 annually Cardboard - \$70,000 annually Plastic wrap - \$8,000 annually
metals; cardboard
Our service provider provides refunds for recycling the material commodities - metals, plastics, and paper/cardboard.
Paper, cardboard, and metal based on weight.
Rebates for cardboard and a small amount for co-mingled.
Rebates for recyclables paid directly to airport.
Rebates were being received for comingled (single stream) recyclables until 2014. Since late 2014 we pay to process recyclables (in 2017 rates ranged from \$3 to \$20/ton), except for separated OCC - rebates were about \$55/ton in 2016 for OCC.
receive some compensation for value of metal
Reduced costs to tenants
Refunds on tipping fees (still pay hauling fees) - still working on this, not exactly sure
Small credits are given to the Airport for some recycled items such as aluminum, and other metals.
State tax and county fee not applicable to hauling and processing of material that is recycled/composted Vendor provides rebate for value of cardboard
We get refunds for metals and electronic recycling
We receive scrap metal rebates at market rates less collection/hauling costs; We used to receive co-mingled recycling rebates up to \$20/ton, but now just receive free recycling through combined garbage/recycling contract administered by the city

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**Purchasing**

<b>81) Does your airport purchase supplies, products, or other items which meet any of the following criteria? Select all that apply.</b>		
<i>Value</i>	<i>Percent</i>	<i>Count</i>
Recycled content	76.5%	26
Recyclable	67.6%	23
Packaged in bulk	52.9%	18
Reusable	47.1%	16
Compostable	35.3%	12
Sustainably sourced	35.3%	12
Not sure	17.6%	6
Other:	2.9%	1
None of the above	2.9%	1
Other:		
No requirements to--only lowest cost.		

<b>82) If yes, please describe airport purchases which meet such criteria.</b>
across the board
copy paper has recycled content cleaning supplies hare less hazardous paint is purchased in bulk
Environmentally Preferred Purchasing policy
Janitorial paper products, soaps, and chemicals.
Many items most of which are covered by our Environmental Purchasing Policy
No specific program in place. Coffee cups are compostable, but aren't composted. Much paper has recycled content. Reusable water bottles were distributed to employees.
office paper, paper towels, microfiber towels
Office products, office furniture, chemical purchases, etc.
Paper products have a recycled content criteria, durable products that are reusable are purchased when available, and a focus on compostable products in emphasized.
Paper products, custodial supplies.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**82) If yes, please describe airport purchases which meet such criteria.**

paper products: office paper, restroom paper

Paper towels and printer paper are partially recycled content.

Paper towels and toilet paper, cleaning supplies, light bulbs.

Paper, Packaging, Toiletries

Paper, Paper Towels, Bathroom Tissue, Toilet Covers, etc.

Paper, toner etc.

paper; concessions purchase compostable containers;

These are our typical environmentally preferable purchases: office supplies - paper, pens, pencils, folders, envelopes, drinking water, coffee; and janitorial supplies - toilet paper, paper towel, toilet seat covers, hand soap, cleaning supplies. We "piggyback" our purchases with other City departments for a number of products, such as paper. It is more efficient this way because we don't have to "reinvent the wheel". Definition from the Institute for Public Procurement: "Piggyback (Piggyback Cooperatives) is a form of intergovernmental cooperative purchasing in which an entity will be extended the same pricing and terms of a contract entered into by another entity. Generally the originating entity will competitively award a contract that will include language allowing for other entities to utilize the contract, which may be to their advantage in terms of pricing, thereby gaining economies of scale that they would otherwise not receive if they competed on their own."

Toner cartridges are recycled, paper products have to have a percentage recycled content, compostable serviceware and compostable bags are used at special functions.

Various products which meet these definitions due to manufacturer choice; products are not specifically sought out with such criteria.

We purchase from companies who have recycled content products i.e. paper, bins, toiletries.

**83) Does your airport have a green purchasing or similar policy in place?**

<i>Value</i>	<i>Count</i>
Yes	15
No	12
Not sure	6
<i>Total</i>	33

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**84) If yes, please describe your airport's green purchasing policy. Does this policy apply to airport employees; food and beverage operators/retail stores; airlines; and/or other tenants?**

Airport employees, through the city, have a green purchasing requirement. Recycled content, recyclability, and other factors are considered.

airport only

airport purchases; concessions; and other Terminal tenants

Applies to all employees and directs staff to purchase EPP alternatives to goods and services provided they meet performance needs, are available in a reasonable amount of time and at reasonable cost.

Department of Aviation follows the City Municipal Code

Department of Aviation follows the City Municipal Code

Recommended criteria for products only. No mandates.

Does not apply outside of Airport employees.

Sustainable procurement policy is intended to seek a reasonable balance between environmental, social equity, and economic considerations in the procurement decision-making process. Applies to all Port Authority employees involved in decisions affecting the Port's purchase of goods and services.

The Airport's green purchasing policy is administered through the City and County

The custodial service is required to purchase green, less offensive, cleaners. The Airport purchasing policy recommends considering green options when available.

The Environmentally Preferable Purchasing Program only applies to the Authority, but the Green Concessions Program checklist contains points for other tenants adopting the Authority's Environmentally Preferable Purchasing.

This is for mainly office products and only applies to county operations.

This policy applies to airport employees only. the City used the Environmental Purchasing Policy to guide many decisions (EPP)



**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**Monitoring, Measurement, and Tracking**

<b>85) Which department is primarily responsible for monitoring the status of waste management activities?</b>	
<i>Count</i>	<i>Response</i>
3	Environmental
3	Facilities
2	Environmental
2	Maintenance
1	Airport environmental.
1	Aviation Environmental Programs, and the Office of Environmental and Energy Policy
1	Building maintenance
1	Capital Development (Planning/Environmental Unit)
1	Custodial
1	Environmental (ENV) tracks and reports waste diversion metrics for sustainability performance goals, while Facilities and Infrastructure monitors, tracks, and administers the solid waste utility system including tenant billing, waste hauler payments. We typically collaborate to address program needs across all aspects of the utility system.
1	Environmental Affairs
1	Environmental Operations and Custodial - Facilities
1	Environmental Services
1	Facilities Environmental
1	Facilities and environmental.
1	In development: Environmental and future Sustainability Department.
1	LAWA (also known as Airports Department) and LASAN, our main service provider.
1	Maintenance monitors waste. Environment & Sustainability monitors recycling/compost.
1	No one department is primarily responsible for monitoring activities. The department best suited to oversee a particular aspect of waste management activities may be Facilities, Concessions/Commercial Management or Environment/Sustainability
1	Planning
1	Planning & Environmental Affairs, Terminals & Tenants
1	Planning and Development/Environmental

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>85) Which department is primarily responsible for monitoring the status of waste management activities?</b>	
1	Planning and Environment
1	Planning and Environmental
1	Purchasing Dep't and Operations
1	Since the cost is 40K a year, it isn't high on the radar due to limited and overloaded staff.
1	Terminal Operations
1	facilities

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>86) Which department is primarily responsible for measuring and tracking waste metrics?</b>
An appointed Aviation Department and Sanitation Department, our main service provider.
Aviation Environmental Programs, and the Office of Environmental and Energy Policy
Both environmental and Facilities and Infrastructure for different needs (see above)
Building maintenance
Capital Development (Planning/Environmental Unit)
City environmental services department.
Custodial
Environment
Environment
Environment & Sustainability monitors recycling/compost. Waste quantities aren't tracked - most dumpsters on route. Environment & Sustainability has made estimates.
Environment/Sustainability
Environmental
Environmental
Environmental
Environmental
Environmental
Environmental
Environmental
Environmental
Environmental Affairs
Environmental Services
Facilities
Facilities Environmental
Maintenance
None.
not measured or tracked
Planning
Planning & Environmental Affairs
Planning and Development/Environmental

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**86) Which department is primarily responsible for measuring and tracking waste metrics?**

Planning and Engineering

Planning and Environment

Planning and Environmental/Facilities

Planning, Design and Construction

Sustainability

Terminal Operations

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**Metrics and Calculations**

87) Please complete the following table based on the most current data available.
Annual Total Generation (wgt or vol)
<i>Airport Total</i>
3609.51
12480
1,050 tons
10-15,000 tons
10183 tons
1020 tons
1143 tons
12,000 tons
13,014 tons
1386.66 WGT
14,200 tons
208.59 tons
3,126 tons
3016 tons
3037.9 tons
4188 tons
43500 tons
46,000 tons
4672 tons
828 tons
9751 tons
unknown
unknown

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>87) Please complete the following table based on the most current data available.</b>
<b>Annual Total Generation (wgt or vol)</b>
<i>Airport Administration</i>
168 tons
485 tons
53.0 tons
included in passenger terminal public areas
included in reported #'s
Not distinguishable from others
<i>Airport Operations and Maintenance</i>
1,724.8 tons
796 tons
included in reported #'s
<i>Passenger Terminal Public Areas</i>
1256 tons
1300 tons
2617.1 tons
7328 tons (reported quantities in this category include combined quantities from airport administration, airport operations and maintenance, this category, and concession and retail back of house)
8,255.3 tons
Not distinguishable from others
<i>Concessionaire and Retail Back of House</i>
1198.1 tons
1550 tons
3243 tons (includes some public spaces as well)
344.1 tons
included in reported #'s
Not distinguishable from others

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>87) Please complete the following table based on the most current data available.</b>
<b>Annual Total Generation (wgt or vol)</b>
<i>Airline Areas</i>
included in reported #'s
Not distinguishable from others
unknown
unknown
<i>Deplaned Waste</i>
1215 tons
2855 tons (reported quantities in this category include combined quantities from airline areas on ramp but not maintenance hangers, and deplaned waste captured in SEA's Airfield compactors)
640 tons
Not distinguishable from others
unknown
Unknown
<i>Flight Kitchens</i>
0
n/a
not available
Not managed by airport
unknown

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>87. Please complete the following table based on the most current data available.</b>
<b>Annual quantity landfilled (wgt or vol):</b>
<i>Airport Total</i>
0
1421
3227.07
7874
9531
1057.22 GWT
11,800 tons
164 tons
1922 tons
2,098 tons
208.59 tons
20900 tons
2367 tons
237 tons
2901 tons
43,800 tons
5,100 tons
709 tons
7615 tons
970 tons
unknown
unknown



**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>87. Please complete the following table based on the most current data available.</b>
<b>Annual quantity landfilled (wgt or vol):</b>
<i>Airport Administration</i>
121 tons
29.8 tons
360 tons
included in passenger terminal public areas
<i>Airport Operations and Maintenance</i>
1,651.9 tons
750.3 tons
<i>Passenger Terminal Public Areas</i>
1042 tons
2466.8 tons
5003 tons
7,654.6 tons
780 tons
<i>Concessionaire and Retail Back of House</i>
1175.1 tons
288.8 tons
573 tons
<i>Airline Areas</i>
unknown
unknown
<i>Deplaned Waste</i>
1057 tons
2612 tons
400 tons
unknown
unknown

ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary

87. Please complete the following table based on the most current data available.

Annual quantity landfilled (wgt or vol):
<i>Flight Kitchens</i>
0
unknown

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>87. Please complete the following table based on the most current data available.</b>
<b>Annual landfill diversion (wgt or vol):</b>
<i>Airport Total</i>
25%
100%
382.44
852
4607
11593
1094 tons
119 tons
1287 tons
13.97 tons
2,200 tons
2,400 tons
226 tons
22600 tons
232.6 tons
2568 tons
332.44 GWT
6,900 tons
670 tons
80 tons
<i>Airport Total</i>
906 tons
unknown
unknown
<i>Airport Administration</i>
125 tons

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>87. Please complete the following table based on the most current data available.</b>
<b>Annual landfill diversion (wgt or vol):</b>
23.2 tons
47 tons
included in passenger terminal public areas
<i>Airport Operations and Maintenance</i>
45.7 tons
72.9 tons
<i>Passenger Terminal Public Areas</i>
520
150.3 tons
214 tons
2325 tons
600.7 tons
<i>Concessionaire and Retail Back of House</i>
12.6 tons
23.0 tons
55.3 tons
977 tons
<i>Airline Areas</i>
unknown
unknown
<i>Deplaned Waste</i>
240
156 tons
243 tons
unknown
unknown

ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary

87. Please complete the following table based on the most current data available.
Annual landfill diversion (wgt or vol):
<i>Flight Kitchens</i>
0
unknown
<i>Other</i>
0.0 tons
1714 tons
Unknown

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>87. Please complete the following table based on the most current data available.</b>
<b>Annual recycling rate (% , wgt or vol)</b>
<i>Airport Total</i>
2%
5%
10%
14.40%
17%
22.05%
24%
31%
37%
52%
<i>Airport Total</i>
57%
79%
84%
89%
6.2
10.6
36
100 tons
25% combined (32% Terminal, 9% Airfield)
unknown
unknown

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>87. Please complete the following table based on the most current data available.</b>
<b>Annual recycling rate (% wgt or vol)</b>
<i>Airport Administration</i>
26%
28%
43.80%
included in passenger terminal public areas
<i>Airport Operations and Maintenance</i>
4.20%
5.70%
<i>Passenger Terminal Public Areas</i>
5.70%
7.30%
17%
32%
40%
<i>Concessionaire and Retail Back of House</i>
1.90%
16.10%
19%
63%
<i>Airline Areas</i>
unknown
unknown
<i>Deplaned Waste</i>
9%
13%
38%
Unknown (2)

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>87. Please complete the following table based on the most current data available.</b>
<b>Annual recycling rate (% , wgt or vol)</b>
<i>Flight Kitchens</i>
0
unknown
<i>Other</i>
0.00%
9.20%
Unknown values from FBO, ARFF, Rental Cars



**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>87. Please complete the following table based on the most current data available.</b>
<b>Per passenger waste generation (wgt or vol)</b>
<i>Airport Total</i>
0.00006
0.28
.047 lbs/pp
.47 lbs
.49lbs/passenger
0.45 lb/passenger
0.45 lbs. /passenger
0.46 lbs
0.52 lbs per pax
0.9 lbs/EP
2 lbs
66 kilos
unknown
unknown
unknown
up to 1 lb/passenger
<i>Airport Administration</i>
0.00 lbs/pax (76,949,504 pax in 2015)
included in passenger terminal public areas
<i>Airport Operations and Maintenance</i>
0.04 lbs/pax (76,949,504 pax in 2015)
0.07 lbs/pax (22,221,499 pax in 2015)

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>87. Please complete the following table based on the most current data available.</b>
<b>Per passenger waste generation (wgt or vol)</b>
<i>Passenger Terminal Public Areas</i>
0.21 lbs/pax (76,949,504 pax in 2015)
0.24 lbs/pax (22,221,499 pax in 2015)
0.26 pounds/passenger
0.32 lbs./passenger
<i>Concessionaire and Retail Back of House</i>
0.03 lbs/pax (76,949,504 pax in 2015)
0.11 lbs/pax (22,221,499 pax in 2015)
<i>Airline Areas</i>
unknown
unknown
<i>Deplaned Waste</i>
0.13 lbs./passenger
0.13 pounds/passenger
unknown
unknown
<i>Flight Kitchens</i>
0
unknown

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

<b>88) How do you get raw data related to your airport's waste, recycling, and compost?</b>	
<i>Value</i>	<i>Count</i>
Data provided by hauling contractor	28
Estimate from container sizes and collection schedule	7
Estimate from previous studies or prior audits	7
Do not track	6
Other	4
Estimate from industry averages	2
Estimate from annual costs	2
On-site scale(s)	2
Not sure	1
Other	
Data for #81 not currently tracked.	
Previous years data	
Scales at transfer facility (city invoices)	
Waste sorts/assessments	
Totals	

**89) If you estimate your metrics, please describe how you calculate this information.**

All MSW compactor loads are individually weighted at the disposal site. Organics/compost loads individually weighed at the disposal site. Exact weights reported by hauling contractor monthly. Cardboard bales and mixed recycling is estimated using container size/type and collection frequency based on actual measured weights.

Airport total metrics was taken from audit estimates of both terminals and airport authority information. Airport authority info was a combination of data provided, and an estimate of container size and collection schedule. Visual observations of dumpsters were observed for a month to estimate capacity factor for dumpsters on collection schedule.

Certain metrics used in the calculation of solid waste diversion were captured in previous years, and have been used in subsequent years due to the difficulty in obtaining updated information.

Data above is from 2016 (Other = areas Division of Aviation collects waste/recycling from: public spaces, roadways, Division of Aviation office areas, Division of Aviation maintenance shops) Total airport generation is based on extrapolating quantities provided for Division of Aviation , Marketplace (all concessions/retail), and AA (70-75% flights) waste and recycling (terminal area only).

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**89) If you estimate your metrics, please describe how you calculate this information.**

Data for three quarters of the Airport's tonnage is measured and reported by hauling contractors. The remaining quarter, which includes minor single-stream recycling and msw components, compost and checkpoint liquid waste diversion is estimated using various techniques. Compost estimates are completed by hauler, reported monthly, and incorporate container size, collection schedule, fullness estimates and density factors. Checkpoint liquid waste estimates are completed by janitorial contractor annually based on periodic month-long measurement studies to determine averages and seasonal fluctuations. Water bottle diversion estimates from water refill stations incorporate displayed metrics and converted to tonnage using industry standard bottle weight conversion values and volume estimates.

For front load containers, we estimate 50lbs per cubic yard.

recent waste characterization study and data from waste hauler

Regular waste assessments

The Department of Aviation relies on data from our waste management contractor to populate the previously requested data and track waste at the airport. As previously mentioned the data is for the Department of Aviation contract and there are several other waste management contracts at the airport thus that have not been included. Data from the contractor appears to be based on tips/pulls with some assumptions for an effective weight.

The Department of Aviation relies on data from our waste management contractor to populate the previously requested data and track waste at the airport. As previously mentioned the data is for the Department of Aviation contract and there are several other waste management contracts at the airport thus that have not been included. Data from the contractor appears to be based on tips/pulls with some assumptions for an effective weight.

We hired a consultant to perform a waste characterization study years ago and the study generated baseline numbers and a breakdown (by percentage) of the airport's waste stream. These metrics have been used to generate estimates. A state department overseeing waste management across the state, and service provider provide spreadsheets and forms with built-in formulas for us to calculate our numbers.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**Reporting**

**90) Do you receive information about the fate of your waste, recyclables, compostables, and other streams? For example, do you receive information about the landfill, recycling center, compost site, or other facility that processes your material?**

<i>Value</i>	<i>Count</i>
No	16
Yes	14
Not Sure	3
<i>Total</i>	33

**91) If yes, please describe the information you receive about the fate of your waste, recyclables, compostables, and other streams. For example, describe the information you receive about the landfill, recycling center, compost site, or other facility that processes your materials.**

Commodity, market information, regional policy information, contamination reports
Custodian provides the information
Data from hauling contractor
Invoices and scale weights
Most of our food waste normally goes to an anaerobic digester. We are notified when our food waste goes to another location.
Our office paper hauler sends us certificates that the materials have been shredded and recycled.
quarterly reports regarding weights of various waste recycled
Some vendors inform us of their outlets and market changes.
The hauler provides quarterly recyclables sales and tonnage data for all City facilities; airport-specific data cannot be extracted, except for cardboard. City staff audit the airport's waste streams at the Material Recovery Facility and compost facilities annually.
Waste hauler notifies us when recycling loads are rejected for contamination
We receive periodic updates from our main recycling service provider typically on-request, regarding the market destination of single-stream recyclables processed in their MRF (e.g. Metals x% domestic markets in WA, OR, and CA; Mixed paper y% foreign markets in China, etc.; OCC z% to domestic markets in WA). This information isn't provided from other service providers, though we generally know the fate of our material contributions to landfill, compost fractions serviced and reported in aggregate by local entities.
We're not getting information about rejected loads

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**92) Does your airport have internal reporting practices for waste related information? For example, monthly recycling rate is emailed to all airport employees or annual diversion rate is presented during management meeting, etc.**

<i>Value</i>	<i>Count</i>
Yes	18
No	13
Not Sure	2
<i>Total</i>	33

**93) If yes, please describe your program's internal reporting practices for waste related information. For example, monthly recycling rate is emailed to all airport employees or annual diversion rate is presented during management meeting, etc.**

Annual report to the commission, annual sustainability management report

Annual waste report, GRI (Sustainability) reporting

Custodial Department develops a report

Environmental Manager enters data into a spreadsheet

Included in annual organization and sustainability reports made available to staff, tenants, and public. Included in internal annual progress reports evaluated against business objectives and KPI targets. Periodic progress updates at monthly airline and concessionaire manager meetings (typically quarterly or semi-annually) include this information.

It has not begun but beginning in soon, the monthly waste totals and rates intend to be included in a monthly sustainability report that goes to the Department of Aviation leadership

It has not begun but beginning soon, the monthly waste totals and rates intend to be included in a monthly sustainability report that goes to the Department of Aviation leadership

Monthly diversion rate is presented during management meeting

Monthly follow-up and annual performance communicate to all airports employee.

Monthly reporting

Quarterly KPI

Quarterly KPI

Some tenants request data and we report our annual waste related information for sustainability documents.

Track diversion rate for gainsharing (bonus) program.

Waste diversion is reported to the senior leadership team from time to time. Employees are briefed on the updated recycling information monthly in a newsletter that is available.

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**93) If yes, please describe your program's internal reporting practices for waste related information. For example, monthly recycling rate is emailed to all airport employees or annual diversion rate is presented during management meeting, etc.**

We include waste related information in our annual sustainability reports. We also have a sustainability website that contains more or less the same information in the reports. We occasionally publicize waste related information through a press/news release, social media posting, or our intranet page. We give presentations to employees from time to time.

We use to produce an annual recycling report until. 2016 data were included in a larger Sustainability/Environmental Report, which is shared with management. Sustainability and recycling committees also track recycling rates throughout the year.

Yearly report to commission and leadership team as part of our EMS program.

**94) Does your airport have external reporting practices for waste related information? For example, public notification via airport website or press release, etc.**

<i>Value</i>	<i>Count</i>
Yes	18
No	16
<i>Total</i>	34

**95) If yes, please describe your program's external reporting practices for waste related information. For example, public notification via airport website or press release, etc.**

Airport website, sustainability management report, as a 'state agency' the airport authority is asked to report to the state environmental regulatory authority

Dashboard relaying waste generation data

Environmental report, environmental blog/website

Environmental, Social, and Governance report.

Performance report into the annual report, airport newspaper (every quarter) and to the concessionaires supervisor by email or meeting about twice a year.

Periodically update the Airport's Green Initiative link on the website

Press release, GRI report

Public notification via airport website.

Published in periodic sustainability reports.

Recycling and other environmental reports are published online (currently pending approval for 2016 report).

Required annual report to State EPA

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**95) If yes, please describe your program's external reporting practices for waste related information. For example, public notification via airport website or press release, etc.**

See public documents mentioned above. These are available on the Port Authority's website. We have no city, state, or other reporting obligations to governance bodies with jurisdictional oversight.

sustainability report

The Airport has recently been featuring Green Business certified tenants via airport website. The Airport also includes summary data on waste management practices in our annual Climate Action Plan updates and in the periodic Sustainability Reports.

The News featured our food donation program. A display on this practice is being developed for passenger areas in terminal

Varies in schedule but the Airport utilizes PR releases and airport website

We include waste related information in our annual sustainability reports. We also have a sustainability website that contains more or less the same information in the reports. We occasionally publicize waste related information through a press/news release or social media posting. We also complete and submit reports as required by the City and State. From time to time, we table events to share about our sustainability events.

We report our diversion rate to the County. We also advertise how much food waste is recycled via airport website and wall graphics.



**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**Studies and Reports**

<b>96) Have you conducted or developed any of the following? Select all that apply.</b>	
<i>Value</i>	<i>Count</i>
Waste stream composition study	21
Airport Recycling, Reuse, and Waste Reduction Plan (element of Master Plan)	16
Sustainability report	15
Airline, concessionaire, retail, or other tenant survey	12
Recycling or waste management report	12
Audit of recycling or composting facility	10
Sustainable Master Plan	10
Passenger interviews or behavior study	7
None of these	6
Other:	2
GRI (Sustainability Report)	
We've done nearly all of these at one time or another and update some regularly. Our Sustainable Airport Master Plan (SAMP) is currently underway with completion pending environmental review process scheduled to begin next year.	

## ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary

### Tools and Sample Documents

97) Which of the following tools or sample documents are you willing to provide for inclusion in this project's report appendix? These materials will be credited or anonymized prior to inclusion in the project report, where appropriate or requested.	
Photos	17
Sustainability report	15
Container labels	14
Signage	14
Training materials	10
Hauling contracts	10
Reports from haulers	10
Educational materials	9
Written policy(ies) or procedure(s)	9
Lease provisions related to waste management	8
Requests for Bids/Requests for Proposals, etc. (i.e. for containers, related services, etc.)	8
None of these	8
Press releases	7
Waste Recycling, Reuse, and Waste Reduction Plan(s) (element of Master Plans)	7
Marketing campaigns	6
Online information	6
Other:	6
Public announcements	5
Studies	5
Recycling or waste management report	5
Specifications (i.e. for containers, related services, etc.)	4
Green Team agendas	3
Sustainable Master Plan	3
Recycling documents from airlines, food and beverage operators, or retail companies or contacts within these organizations	2

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**97) Which of the following tools or sample documents are you willing to provide for inclusion in this project's report appendix? These materials will be credited or anonymized prior to inclusion in the project report, where appropriate or requested.**

Other:

Airport is interested in sharing and would like to discuss these items on a call

discussion

other annual reports

Terminology notwithstanding, we 've produced many of these and typically share materials we own that aren 't protected or confidential.

Waste stream composition study

Waste stream composition study

**98) Are you ready to upload your documents at this time? You can upload up to ten files directly via the online survey. The project team can also contact you to collect additional items via email or online dropbox.** [Redacted]

**99) Please click "Browse" and select up to 10 files to upload. (Online only.) Accepted file types include: png, gif, jpg, jpeg, doc, docx, xls, xlsx, and pdf.** [Redacted]

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**100) In your experience, what information gaps exist with regard to airport waste management?**

Additional information/data provided by hauler. Lack of information provided by tenants. Resources for obtaining information/data on passenger recycling.

Airline and other tenant waste management practices.

Airline recycling practices, discrepancies between onboard collection and actual handling and disposal and how airline cabin service providers handle/manage materials. How to encourage the public to reduce waste generation and recycle more. High turnover in airport concessions creates training challenges.

How to best connect with passengers. What sort of staffing (quantities) is required to run compost/recycling/food donation efforts?

I suspect airports really don't know where their waste ends up or what the market conditions are that drive effective recycling. Many items thought to be traditionally recyclable, have no practical/market value and are sent to the landfill. So airports (the community) spend significant effort sorting, collecting, transporting, and recycling items that will not be reused. Why spend those valuable resources on a failed process? Take the resources and invest them in something that has environmental return. In addition, some items -- like glass -- can end up contaminating (safety of crushed glass) other recycling products and cause a rejection of the entire load of items. There is a disconnect between the generators of waste, the handlers of waste, and the receivers of waste.

In our experience, these are the major information gaps regarding airport management: in-flight recycling - every airline operates a little bit differently, so it is difficult to meet every airline's recycling needs. it would be great if there is more information on best practices on and other airport's experiences for starting or improving in-flight recycling for a particular airline or in general; recycling bins/receptacles - it would be nice to know what airports use, costs, and general experience with the product; and best practices for and other airports experiences in implementing recycling and waste diversion policies/programs for tenants/airlines/concessionaires.

Information addressing tenant waste and increasing passenger recycling rates. It would be helpful to have more information on how to engage airlines to participate in an airport's recycling program.

Infrastructure for liquid collection, more liquid filling stations, closer collaboration with TSA

Just installed new waste bins in three terminals but only have English written descriptions of "waste" and "recycling" and has no supporting coloring or images which may be difficult for travelers that don't have English proficiency.

lack of a data warehouse. No centralized owner of all waste streams.

Need to receive better data.

None

Possible gaps exist in the following: -Tenant's that have independent waste hauling contracts. - Waste tracking data from our hauler -Communication between tenants and Airport staff

**ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary**

**100) In your experience, what information gaps exist with regard to airport waste management?**

The Airport's understanding of our own waste management program comes from years of active management, involvement with stakeholders, and plenty of painstaking discovery via trial and error. However, a local information gap remains regarding visibility into airlines complete waste management practices and records. Airlines and other tenants often manage waste/recycling using a combination of airport and airline/flight kitchen/support facility systems. We've tried to obtain data from "their" systems with little to no success since it's either just not available, difficult to obtain, or inconsistent or incomplete. This complicates efforts to effectively report complete and consistent records of "all airport waste" and requires establishing firm boundaries of control and influence. One idea to address this might be to lobby FAA to consider requiring airlines to prepare solid waste management plans that include reporting standards and airport communication and coordination protocols. I think this was suggested during development of the FAA latest recycling plan guidance materials but never took flight:) I think the truism that "if you've seen one airport, you've seen one airport", remains a very real and important fact when comparing airport waste management practices. Until airlines are compelled (by national industry or state mandate) to coordinate waste management procedures with airports, this gap will likely remain.

the most significant item is the need for more staff to implement initiatives

total lack of information contractor contracted to take single-stream waste off-site

We need a current and targeted composition study of ALL airport waste streams. We need more information about the costs of 1. building and 2. maintaining an MWP and how much money our materials will generate. How many tenants will need to be involved for it to be feasible/sustainable and will it be scalable if tenants sign on gradually? We need to get more information from our tenants about their willingness to participate in a more centralized program.

What % of waste headed to landfill is still recyclable. Need to audit actual waste in trash compactor to determine % of food waste compostable/recyclables/landfill trash.

What successes are other airports having in capturing aircraft recycling?

## ACRP 11-03 S02-18 Airport Waste and Recycling Practices - Survey Response Summary

### Additional Study Topics

**101) What other information does your airport need to make progress in managing waste?**

A clear and consistent message of how management wants to handle waste and waste diversion.

Additional waste and recycling data to make a case for expanding current program.

An assessment of waste streams might be useful in determining the best opportunities for the Airport to minimize waste.

design standards that will require sufficient space for tenants to recycle, policy to ensure compliance, and waste cradle to grave for each tenant

Documentation from other airports showing the value in such programs would be very beneficial.

Doing more waste audits to determine how much recycling vs trash makes up the waste in certain areas. Waste audits will help us determine how many recycling bins and trash bins we need in a location.

How to motivate airlines to fully participate in provided program.

Improved passenger education

Measurable and formal tracking processes. Inclusion of language in tenant/airline/vendor contracts.

One of the terminals at the airport should have similar expectations to divert waste from landfills but the operation is managed by a third party and currently does not offer recycling or composting.

Our airport is awaiting information from our master plan in order to determine future goals and plans for our waste management process.

Outreach to employees, contractors, and traveling public

Regional/global recycling market research and trends - where is the market going in 5 years? Is more sorting or less sorting going to be necessary in the future based on regional needs/trends? What problems are other airports having and what are they doing about it?

Revenue to keep up with the costs

We are currently developing a Zero Waste Plan. The first phase of this plan involves developing more accurate data of the rate and composition of waste generated by major generators of waste at the Airport.

We need more complete and consistent data from tenants/airlines/concessionaires to make progress in managing our waste.

We're interested in successful application of mixed waste processing or waste-to-energy strategies used by other airports for residual waste (i.e. material not source separated). These are the next horizon-strategies we're looking into for additional material recovery but neither are currently used in our region.

**101) What other information does your airport need to make progress in managing waste?**

What % of waste headed to landfill is still recyclable. Actively engage concessions, retail, and airlines. Need to audit actual waste in trash compactor to determine % of food waste compostable/recyclables/landfill trash. Increase notification/awareness of program and educate

**Additional Topics**

**102) Please use the space below to provide any other pertinent information about the current state of airport waste and recycling management.**

Currently, the Airport is in the process of formulating a Sustainable Management Plan which will ultimately guide our waste management goals and initiatives.

NOTE: for this survey we only focused on waste materials generated and disposed at the central waste area of the terminal, this did not include maintenance or cargo facilities.

The Airport has improved over the past several years, with many people excited to see the program move forward.

There has been significant effort placed on in-terminal recycling (pop cans, newspapers). It's really visible, but can often be just a fraction of an airport's total waste. Working groups of airports of all sizes are trying hard to figure out how to change the behaviors of people using in-terminal recycling containers. I suspect that no sign, container, or announcement will ever change behaviors; but may reduce the contamination rate somewhat. Instead of the focus on in-terminal recycling, I would suggest a comprehensive approach to waste management that captures the benefit from ALL waste reduction and recycling.