

WHITE PAPER / AIRPORT ENVIRONMENTAL SUSTAINABILITY

# REFRESHING AN AIRPORT RECYCLING PROGRAM

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Recycling programs and other sustainability efforts can help airports reduce their environmental impact, enhance community relations and meet environmental requirements. Changes in recycling market dynamics, however, are leading many to take a fresh look at their long-range approach.



For many airports, their solid waste recycling programs date back to a time when recycling benefited not only the environment, but an airport's bottom line. Early on, recycling programs typically involved setting up designated bins throughout an airport where consumers could dispose of plastic bottles, paper and other recyclable goods. These materials were later collected, processed, bundled and sold as commodities. Buyers in both domestic and international markets used them as a raw material in the production of other products. Some recycling programs became revenue centers, offsetting costs with the revenue share the airport received from the sale of its recycled materials.

All that began to change in 2008 when the value of recycled paper and plastic began to plummet, dropping from all-time highs to historic lows. Recycling processors responded by raising processing fees and shifting more financial risk to their customers. As a result, airports today pay processors, on average, \$60 to \$90 per ton to process their recyclables, more than double the rate of a decade earlier. While agreements may call for recycling processors to pay airports a revenue share, these materials are commodities, and their values are constantly changing.

The financial benefits of recycling took a further hit in 2018 when China announced a new national sword policy that severely limits the amount and kinds of recycling materials its government will accept. Historically, the U.S. has shipped significant quantities of recycled materials to China. While the markets for certain materials like cardboard, metal cans and plastic water and soda bottles has remained relatively stable in the months since, the recycling market for mixed paper — a combination of office paper, newspapers, brochures — has collapsed. Recycling programs at many airports and elsewhere have suffered ever since.

## NO TURNING BACK

It is easy to do the right thing when there is a financial incentive to do so. When that incentive is taken away, airports still must contend with local and state environmental regulations, as well as the expectations of the general public. The onus is now on airport staff to evaluate and potentially reset their recycling programs to

make them more cost-efficient and sustainable. Doing so requires several steps.

### 1. Perform a waste and recycling assessment —

Before setting goals and developing a recycling plan, it is essential to understand the waste generated and collected at an airport. A waste assessment involves facility walk-throughs focused on identifying the various areas of an airport that generate waste and the kinds of recyclable materials they produce. A waste assessment typically includes sorting representative waste samples into various categories of recyclable and nonrecyclable materials. Assessments can involve physical sorting of the material or conducting a visual characterization.

The qualitative and quantitative data that results from this assessment make it easier to set goals to increase the use of recyclable materials, if necessary, and to define goals and objectives that reflect what is capturable. These goals and objectives can be designated as key performance indicators (KPIs) in the sustainability management and/or recycling plans that many airports have or are now developing, often to comply with regulatory requirements.

### 2. Reassess recycling goals, objectives and expectations —

Many airports originally set ambitious goals for their recycling programs, sometimes without fully understanding their feasibility. A goal to recycle 80% of the solid waste passing through an airport, for example, might be wise when recycled commodity prices and interest in sustainability are high. But if an ambitious goal is set without first analyzing an airport's actual waste stream and determining how much of it is recyclable, an airport could be setting itself up for failure.

There are other reasons to keep recycling goals reasonable and attainable. When a recycling program produces revenue, it makes sense to recycle as much as possible. When it becomes a cost center, however, it can be necessary to take finances into account when setting goals. Rather than recycle at all costs, many airports choose to recycle what they can reasonably afford from an operational and financial perspective. Rather than focus on how much is recycled — which can

be difficult to control — it may make better sense to set goals in terms of minimizing landfill disposal or based on how much of the most sought-after recyclables can be captured.

**3. Develop, or redevelop, a plan** — Based on a waste assessment’s findings, it may be necessary to adjust the scale and scope of an airport’s recycling program. Many airports initially target materials that are easiest to collect. The big five include paper, plastic, glass, corrugated cardboard and aluminum. Later, they may add compostable food waste. Some back-office materials, such as cardboard, require only employee participation, while others impact passengers and airline staff passing through the airport.

When deciding on which materials to recycle, airports should consider the financial return on recycled materials. To help support a recycling program’s sustainability, it makes good economic sense to recycle materials with the highest value. Since environmental goals are also important, airports need to consider how to balance financial decisions with recycling goals.

A recycling plan should also consider how these materials will be collected: in a single stream, where all recyclables are placed in a single bin and later sorted, or in separate bins for materials like cardboard. These decisions will be affected by local market conditions, regulatory guidelines and trash hauler standards. They may also affect program finances. A single-stream approach will likely result in the highest recyclable collection rates, for example, but will also require additional sorting costs. It is helpful to “do the math” to determine which approach is most economically viable.

**4. Seek ways to reduce contamination** — The waste bins at many airports may contain significant contamination. Nonrecyclable items may have been mixed in with recyclable items, or recyclable items may have been placed in the wrong recycling bins. High levels of contamination can be costly, as recycling processors need to recoup the costs for sorting and disposing of trash in the recycling stream.

There are several things airports can do to reduce contamination in their recycling stream. Among the most effective is public education — an effort complicated by the fact that the audience an airport seeks to educate is constantly changing. To further complicate matters, no two airport recycling programs are alike. Materials may be recycled in one airport and not in another. Bin colors can also vary from one location to the next. Some airports offer bins for composting food wastes. Meanwhile, passengers are frequently in a hurry and may be confused by signage as they attempt to discern quickly which items are recyclable and what bin to deposit them in.

Among the best ways to speed their learning curve — and, therefore, minimize contamination — is to implement an in-airport communication program that uses signage and other tools to make employees and passengers aware of recycling efforts and how they can participate. Easy-to-read signage with clear messaging is key.

This can be especially important for food waste recycling programs. Contamination allowances for organics are much lower than that allowed for single-stream items. It is important to decide if the program will focus on pre-consumer vs. post-consumer waste, and to include visual aids on compost bin signage to help all vendors and consumers make good disposal decisions.

It’s also important to look at how cities located near the airport are addressing recycling and contamination. For example, cities in North Central Texas, a 16-county region of more than 6 million people that includes Dallas and Fort Worth, are implementing a regional recycling campaign focused on decreasing contamination. Local airports can benefit if they coordinate with regional recycling efforts, especially since they serve travelers from the area.

**5. Review and renegotiate recycling contracts** — An airport’s recycling and solid waste disposal contract may have been written to award it a rebate tied to the value of the recycled goods. These rebates usually offset costs associated with transportation, recycling material

sorting and landfill disposal, which allowed the sale of recycling materials to sometimes partially offset the cost of trash and recycling services.

Due to the drop in recyclable commodity prices, the opposite is now true. It is critical, therefore, for airports to take a fresh look at and, when contracts are expiring, negotiate terms that make them fair to both the airport and the recycler.

One way to make these contracts more equitable, for example, is to assign a fixed unit cost for recyclable collection and processing based on collection frequency and/or tonnage. That cost can be impacted by the percentage of contaminated recyclables in the waste stream — providing airports an incentive to reduce contamination and protecting processors if airports fail to do so. Rebates can also be tied to current market pricing, enabling both parties to benefit during market up times, as well as to share the pain when prices drop.

## OTHER ROADS TO WASTE REDUCTION

Taking advantage of recycling opportunities is one way to reduce an airport's environmental impact. But it's not the only one. And there are ways to minimize the amount of waste that even exists.

Airports can encourage sustainable food service solutions and reduce front-end waste, for example, by implementing green tenant programs. Requests for proposals, requests for qualifications and lease agreements can all include language that makes it mandatory for vendors to serve food items in compostable or recyclable materials. Some airlines and airports have begun to ban the use of plastic straws and encourage other solutions that reduce paper and plastic solutions. Others have developed food donation programs to deliver expiring items to local food pantries in advance of the expiration date.

The good news is, public interest in these and related recycling programs is high. An airport's challenge now is to determine the best ways to encourage passengers, employees and vendors to participate.

## BIOGRAPHIES

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