ZERO WASTE PLAN

PATHWAYS TO ZERO: RETHINKING, REDUCING, REUSING, AND RECYCLING MATERIALS

ZERO WASTE

July 2020

SAN DIEGO INTERNATIONAL AIRPORT

LET'S GO.

The Zero Waste Plan establishes the San Diego County Regional Airport Authority's vision to be a leader in California, the San Diego region, and the aviation industry in rethinking materials management.

ZERO WASTE PLAN

PATHWAYS TO ZERO: RETHINKING, REDUCING, REUSING, AND RECYCLING MATERIALS

Prepared by:

AECOM

Contents

List of Figures

List of Tables


TRASH WASTE
ONLY
SANDIEGO
LANDFILL
Packing Peanuts
Snack Bags, Wrappers & Film Plastic
Plastic Utensils & Straws
Napkins, Paper Towels, Compostable Plateware & Utensils
Full Toiletries & Bottles of Liquids
NO RECYCLABLES • NO HAZARDOUS MATERIALS •
FOOD WASTE ACCEPTED WHEN COMPOSTING IS NOT AVAILABLE •
VERY SOILED FOOD CONTAINERS AND WRAPPERS ACCEPTED
SANDIEGO
Questions?
FOOD WASTE
ONLY
SANDIEGO
FOOD WASTE
All Fruit & Vegetable Waste
(Including Peels & Rinds)
Coffee Grounds & Filters
All Cooked Meat, Poultry, Seafood, Bones, Eggs & Eggshells
All Breads, Cheese, Pasta, Grains, Rice & Beans
AND ANY LEFTOVER FOOD!
NO COMPOSTABLE PLATES, CUPS, OR UTENSILS • NO OIL OR GREASE • NO PLASTIC, ALUMINUM, WAX, GLASS, OR CARDBOARD • NO PAPER TOWELS, NAPKINS, OR FOOD WRAPPERS • NO LIQUIDS, ICE, OR WATER
SANDIEGO
Questions?

Executive Summary

Conservation of resources through waste reduction, recycling, composting, and processes that support an ongoing cycle of utilization is the core aspiration of zero waste. By emphasizing source reduction first, and following the waste management hierarchy (reduce, reuse, recycle, rot [compost]) for remaining materials, it is possible to significantly reduce reliance on the landfill.

The San Diego County Regional Airport Authority (herein referred to as the Authority) has set an aspirational goal of zero waste to landfill that aligns with the City of San Diego's Zero Waste Plan goals. With over 24 million passengers traveling through San Diego International Airport (herein referred to as the Airport or SAN) in 2018 and approximately 10,000 badged employees working onsite, zero waste represents an ambitious proposition. The Authority will demonstrate continuous improvement toward this goal and evolve its efforts as new markets, technology, and best practices are identified. For waste that is generated, the Authority will apply the waste management hierarchy and use landfilling as a last resort for those waste streams with no other current options.

The City of San Diego, with a population of over 1.3 million people, disposes over 910,000 tons of trash per year. Airport operations contribute to regional waste generation. At this rate of disposal, the only City-run landfill, the Miramar Landfill, will likely be filled to capacity and closed by 2030. Additionally, landfills represent the third-largest source of human-related methane emissions in the United States. Methane gas is a significantly more potent greenhouse gas than carbon dioxide (CO_2).[1] For these reasons, the Authority considers waste reduction and diversion to be critical elements of its sustainability program, and chose to develop a dedicated Zero Waste Plan (ZWP) as part of the suite of plans that comprise the overarching Sustainability Management Plan.

The development of the Sustainability Management Plan, and consequently the ZWP, is supported through a grant provided by the Federal Aviation Administration (FAA).

Defining Success for the Zero Waste Strategy

The ZWP serves as the Authority's strategy and plan for managing various waste issues and covers all waste, including Construction and Demolition (C&D), at the Airport whether generated by the Authority or by tenants. Based on 2018 data, SAN currently has a waste diversion rate of 23%. Construction and demolition debris are separately tracked, and the diversion rate for this waste stream is currently 90.4%. In recent years, the Authority has been working toward finding solutions that would allow for improvements in areas related to waste that go beyond complying with existing regulations. These initiatives range from improving the Authority's percent of waste diverted from landfill disposal and supporting environmentally preferable purchasing activities, to developing programs that incentivize third parties (e.g., tenants, contractors, employees, passengers, and vendors) to avoid or reduce waste generation.

Figure ES-1: The Authority's ZWP Focuses on Five Primary Areas

A Plan to Manage and Advance Zero Waste

The ZWP provides an organized framework for eliminating or reducing waste generation and responsibly managing materials that we do produce. The Authority sees zero waste as addressing five primary focus areas, including sustainable materials management, infrastructure and development, training and education, metrics and reporting, and leadership and influence (Figure ES-1). The Authority's strategy for addressing zero waste is aligned with the City of San Diego's Zero Waste Plan.

The ZWP builds on existing initiatives and programs to define an overarching strategy aimed at effective waste management and reduction, with ambitious and well-defined goals and targets, and a set of initiatives and tactics through which these can be achieved. First, a vision for zero waste at the Airport was defined, then the most relevant focus areas and associated baseline and background information were determined. Finally, a set of goals and targets were created. The final step required the development of a comprehensive list of potential initiatives and a monitoring and implementation plan to serve as an operational tool that will support the Airport in fulfilling its strategy.

Table ES-1: San Diego County Regional Airport Authority Zero Waste Goals

Aspirational Goals	Metric(s)	Target(s)	Target Timeframe
1. **Reduce waste generation**	Reduce the amount of material discarded per employee and passenger	5% reduction in total discarded material	2025
		10% reduction in total discarded material	2035
2. **Increase waste diverted from landfill**	Meet or exceed the City and State waste diversion targets and timeframes	Achieve 90% Diversion Rate[2]	2035
3. **Demonstrate regional and industry leadership in zero waste**	Engage Authority, aviation industry, and regional stakeholders to share best practices and amplify impact of sustainable materials management and waste reduction programs	Promote and participate annually in four working groups coordinated by the Authority or stakeholders	2025
	Provide regional and industry leadership and zero waste solutions	Achieve TRUE[3] zero waste or equivalent third-party certification	2035

Source: Developed as part of Authority inter-department outreach, Fall 2018.


DANGER
DANGER
STOP
WARNING
WASTEQUIP
DANGER
CAUTION
NOTICE
WARNING
DANGER
PLEASE KEEP LIDS CLOSED
HIP
CARDBOARD
ONLY


TRASH ONLY
PLEASE KEEP LIDS CLOSED
TRASH
PLEASE KEEP LIDS CLOSED
PLEASE KEEP LIDS CLOSED
RECYCLE

01

Introduction


INTERGALACTIC DREAMING
SAN DIEGO
EXPRESS

The San Diego County Regional Airport Authority (herein referred to as the Authority) has a long-standing commitment to sustainability, leading with progressive initiatives in the San Diego region and the broader aviation industry. While the aviation industry continues to make advancements in the improvement of economic, social, and environmental outcomes through the identification and implementation of innovative sustainability strategies, the Authority is committed to maintaining a leadership position and inspiring others to take a similar approach.

The Authority believes that zero waste[4] is one of the critical issues to be tackled to guarantee a sustainable future for the Airport and for regional and global communities. With over 24 million passengers traveling through the San Diego International Airport (herein referred to as the Airport or SAN) in 2018, committing to large-scale waste reduction has never been more important. The Authority also understands that waste disposal results in greenhouse gas emissions. For this reason, zero waste strategies have a prominent place in the sustainability strategy currently being developed and implemented at the Airport. The ZWP outlines the Authority's approach to zero waste and aligns with the City of San Diego's Zero Waste Plan.

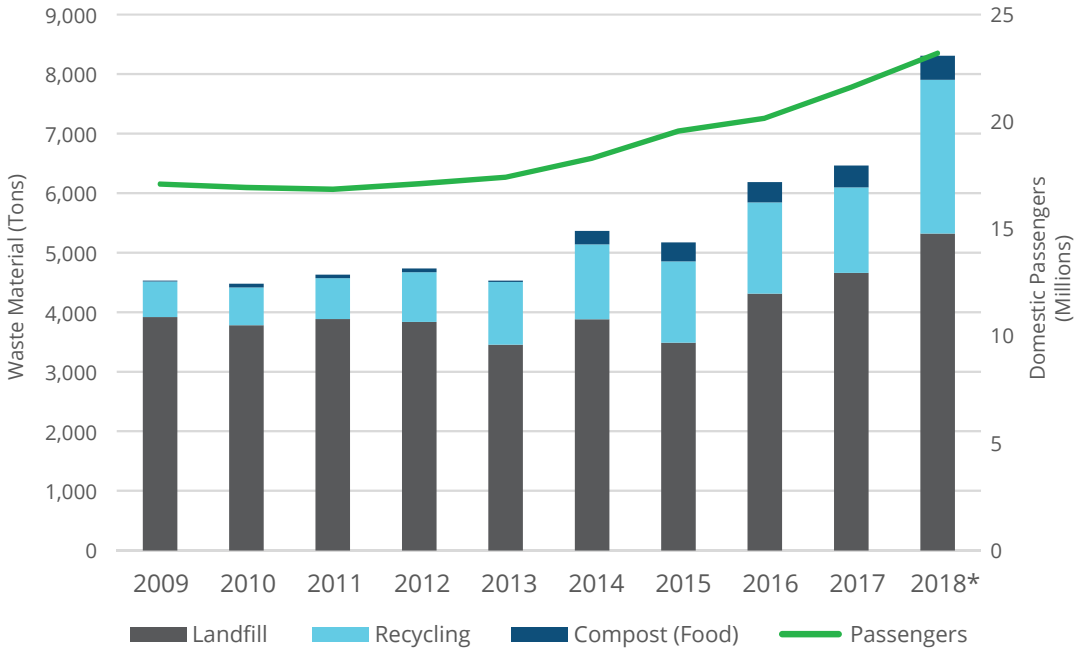
The Zero Waste Plan establishes the Authority's vision to be a leader in California, the San Diego region, and the aviation industry in rethinking materials management.

Zero waste is one of the programmatic sustainability elements of the Sustainability Management Program at the Airport. The ZWP documents the scope and approach for addressing all forms of waste, whether directly generated, controlled, managed, or influenced by the Authority or by third parties (tenants, contractors, employees, passengers, and vendors) involved with the Airport's operations.

The Authority's ZWP has been developed as a standalone document with the intent of addressing the specific issues related to waste reduction and diversion at the Airport. Consequently, the ZWP covers all waste streams including all waste generated at the Airport by the Authority or by third parties.

The ZWP documents the continued efforts of the Authority's program to significantly reduce waste generation and disposal (Figure 1), while embracing technological innovation in the waste reduction sector. Based on 2018 data, SAN currently has a waste diversion rate of 23% (by weight). The percentages of recyclable material types contributing to the diversion rate are shown in Figure 2. Construction and demolition (C&D) debris are separately tracked, and the diversion rate for this waste stream is currently over 90%.

Figure 1: Historical Passenger Enplanement & Waste Generation Rates at San Diego International Airport[5]



* In 2018, the Authority revised the recycling categories by removing universal waste and adding food donations.

Figure 2: Percentages of Recyclable Material Types Diverted in 2018 (by total weight)

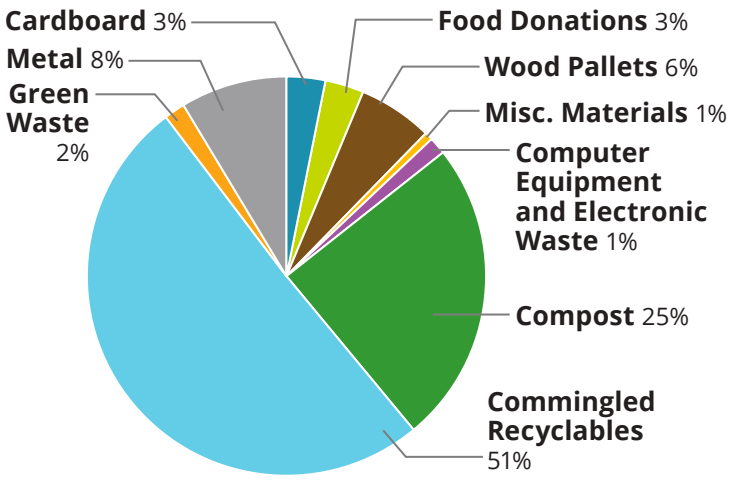
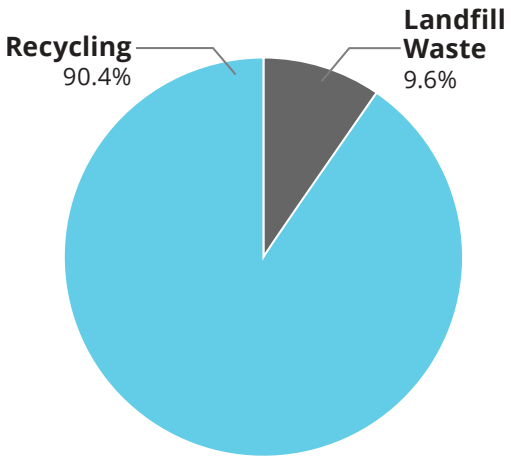


Figure 3: C&D Waste Diverted in 2018 (by total weight)



Vision for Zero Waste

The Authority recognizes the critical role of waste reduction at the Airport, both from an operational and business perspective, and that waste generation and reduction impact the environment. Authority staff, contractors, airlines, suppliers, tenants, and passengers generate waste that impacts local and regional waste management including landfill life, consumption of resources, and greenhouse gas (GHG) emissions.

In alignment with the strategy and approach outlined in the City of San Diego's Zero Waste Plan, the Authority supports rethinking operations to avoid landfill disposal. Additionally, the Authority recognizes the impact of changes in markets for recyclable materials. The ZWP is consequently geared toward the development of a comprehensive and holistic strategy for waste reduction—one that supports more efficient resource use and operational co-benefits from the implementation of a zero waste strategy and associated waste reductions. These benefits include conserving natural resources and reducing pollution from extraction, manufacturing, and disposal; using less energy to manufacture products from recycled versus virgin materials (e.g., new aluminum cans from recycled cans rather than from mined ore); creating jobs in the recycling industry; and managing waste more efficiently through the development and promotion of new technologies.

The Authority's approach is reflected in the goals and actionable initiatives in the ZWP, and is organized by the focus areas outlined in Figure 4 and described below.

- Sustainable Materials Management – using and reusing materials more productively over their entire life cycles[6]
- Infrastructure and Development – obtaining and deploying effective solid waste infrastructure to meet zero waste goals, constraints, and future development
- Training and Education – developing awareness and promoting participation in achieving zero waste goals
- Metrics and Reporting – obtaining quality waste data and implementing uniform measurement and tracking standards
- Leadership and Influence – identifying, implementing, and sharing new ideas for reaching zero waste

Figure 4: ZWP Focus Areas

Integration with Airport Sustainability Management Program and Other Airport Initiatives

The Authority's approach for sustainability is far-reaching, touching virtually every aspect of Airport operations and development. This approach is embodied in the Authority's definition of sustainability for the Airport, formalized in the Board-approved Sustainability Policy, and communicated regularly through the Airport's ongoing sustainability reporting efforts (e.g., Annual Sustainability Report).

The Authority is committed to building an enduring and resilient enterprise by effectively managing our financial, social, and environmental risks, obligations, and opportunities.

The structure of the ZWP was influenced by, and developed in coordination with, several other existing plans, policies, programs, and initiatives, as summarized in the following sections.

Sustainability Plans

The Authority has established seven programmatic sustainability elements that are a focus of the Sustainability Management Program at the Airport:

- Biodiversity
- Carbon Neutrality
- Clean Transportation
- Climate Resilience
- Sustainable Energy
- Water Stewardship
- Zero Waste

Each programmatic area has a dedicated strategic action plan that serves as an operational plan for the Authority to improve performance on that topic at the Airport and allow for ongoing program assessment and evaluation.

Airport Waste Documents

Waste management represents a key topic for the Airport and has been addressed in several documents. The San Diego County Regional Airport Authority Municipal Solid Waste (MSW) and Recycling Material Characterization Annual Reports (Waste Characterization Reports) provide a snapshot of the Airport's waste streams through hands-on sorting and categorizing of discarded material (e.g., aluminum, glass, plastics, paper, cardboard, and food waste). The Authority's annual applications to the City of San Diego's Waste Reduction and Recycling Awards Program (WRRAP) provide a summary of the Authority's efforts to reduce waste. These documents were key sources of information for the ZWP. Other important documents that the ZWP incorporates are the Terminal Bin Audit Results, waste hauler monthly reports, Airport Rules and Regulations, and the Authority's "Procurement Department Sustainable Statement and Resource Guide." A framework for how the ZWP influences, and is influenced by, Airport policy, plans, and ongoing projects and operations is depicted in Figure 5.

Figure 5: Integration with Existing Sustainability Policies and Programs

Airport Planning Documents

The Authority is planning for the future and shaping what the airport will look like in the next decades through the Airport Development Plan (ADP), currently being finalized, and the 5-year rolling Capital Improvement Program (CIP). While the ADP, if approved, recommends improvements, including sustainable design upgrades related to facilities (e.g., at least LEED-Silver certification, or equivalent certification for other types of infrastructure) that will allow the Authority to improve environmental performance, the CIP identifies specific upcoming projects that are planned for construction, several of which will directly influence waste management strategies. Other Authority-produced documents that address waste include the Sustainability Policy (updated 2019), a Commercial Letter to comply with City of San Diego Ordinance O-2008-30, and Rules and Regulations at San Diego International Airport.

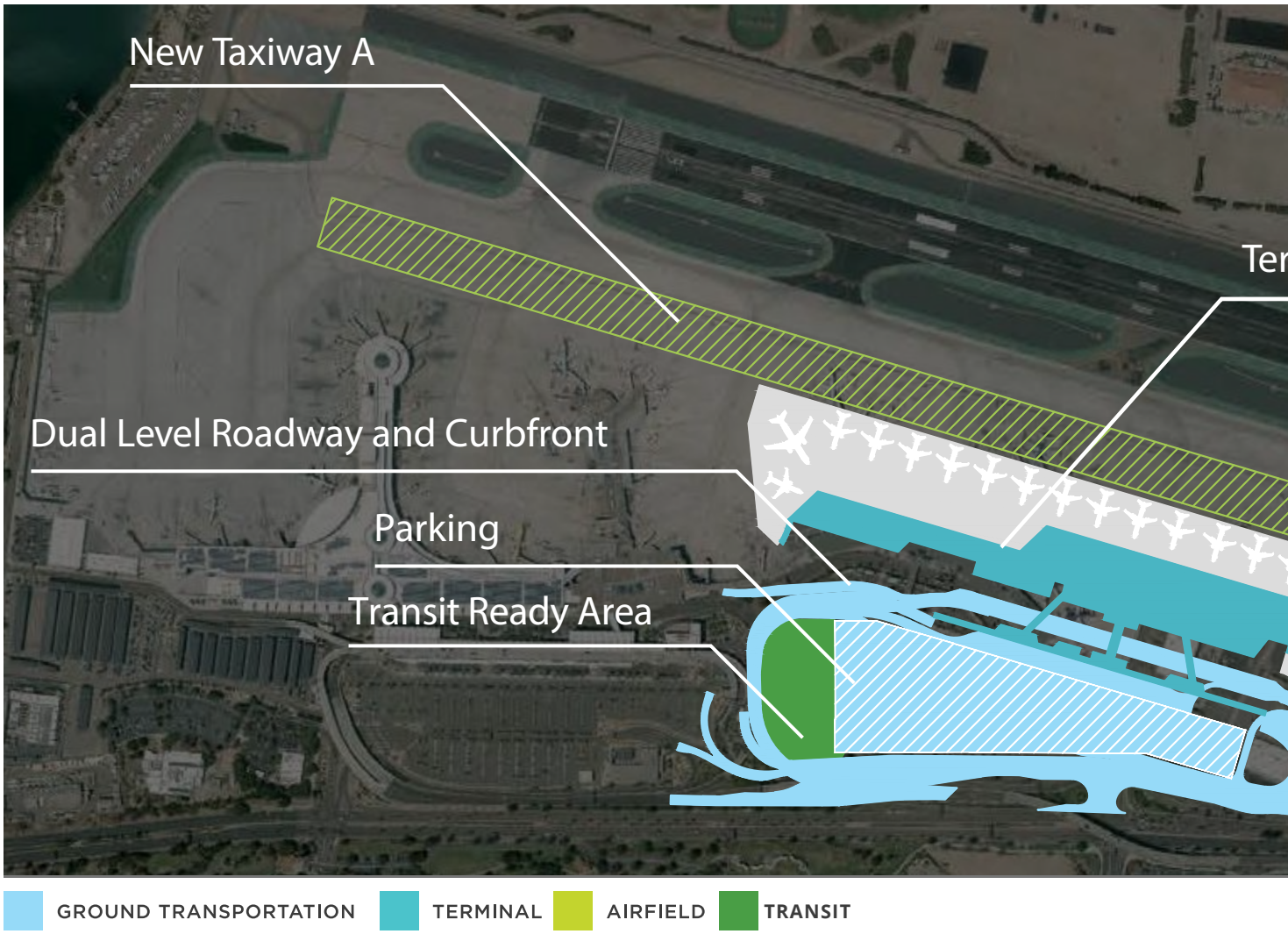
Regional Plans and Policies

The ZWP and associated goals and initiatives may also be influenced by a host of other state and regional plans, policies, and programs including, but not limited to, the following:

State:

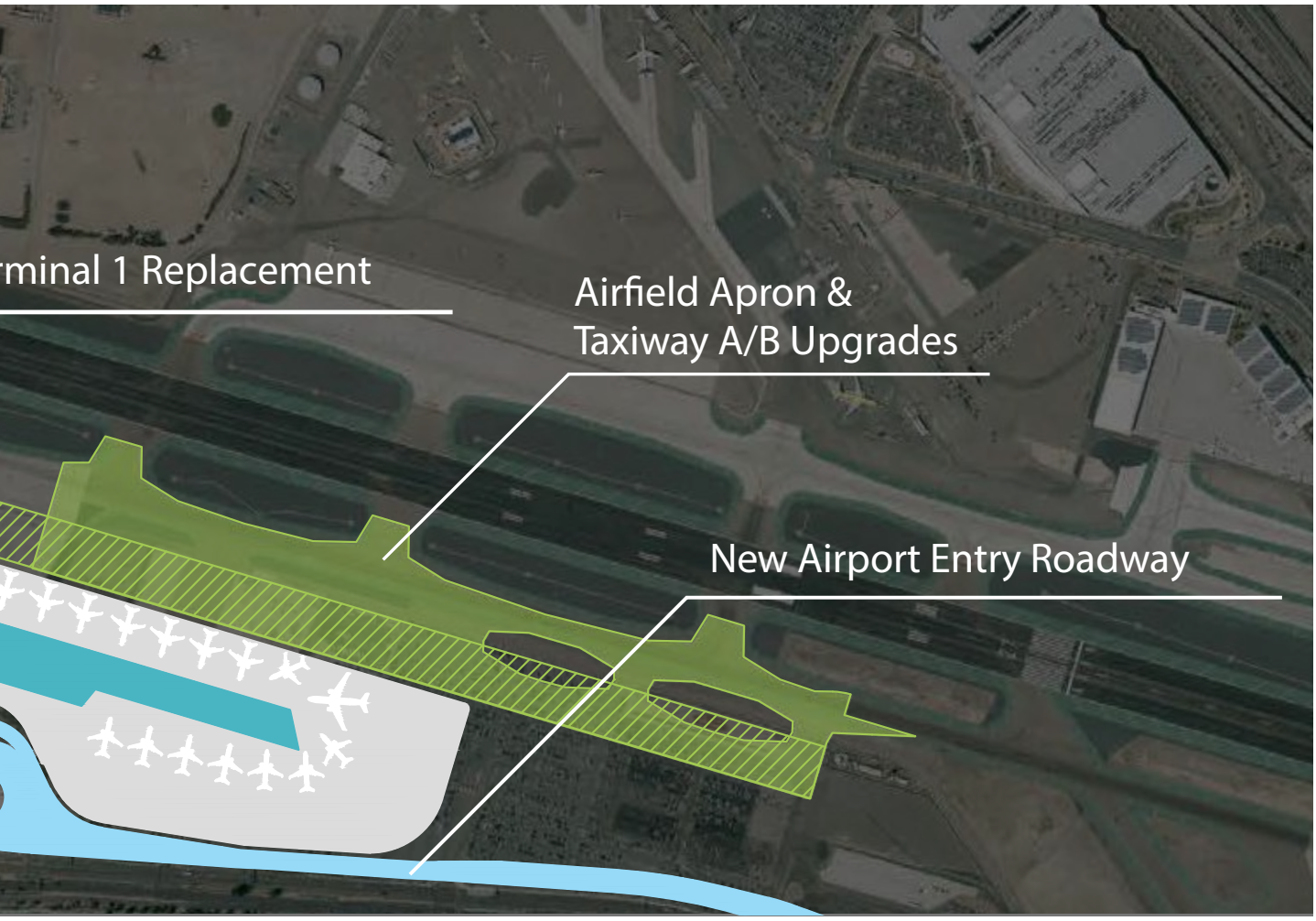
- Bottle Bill / Beverage Container Recycling Program (AB 2020, 1986)
- Plans and Binding City/County Goals, Integrated Waste Management Act (AB 939, 1989)
- Mandatory Commercial Recycling, California Global Warming Solutions Act (AB 32, 2006)
- Statewide Recycling by 2020; Mandatory Commercial Recycling (AB 341, 2011)
- Mandatory Commercial Organics Recycling (AB 1826, 2014)
- Organics Waste Reduction by 2025, Local Mandates (SB 1383, 2016)
- Recycling/Organics Integrated into State Greenhouse Gas Law (SB 32, Updated in 2016)

Figure 6: ADP Overview



Our ADP – Driving sustainability planning through 2035 and beyond

In 2017, the Airport served over 22 million passengers, up from the 20 million it served just the year before. This translates to an average of 550 flights per day, making SAN a top or "Core" 30 airport in the US, thus playing an important role in the national aviation system. ADP represents the Airport's master planning effort to determine the facilities needed to meet the region's air travel demand through the year 2035. The ADP's overarching goal is to optimize the Airport's 661-acre site to accommodate this growing demand, while maintaining high levels of passenger satisfaction. The centerpiece of the ADP is the replacement of the Airport's 50-year-old Terminal 1 with a more efficient and comfortable facility. The new Terminal 1 will increase from 19 gates to as many as 30 gates and will include more gate-area seating, restaurants, and shops, as well as expanded security check point lanes. Similar to the curbfront of the Airport's Terminal 2, the new Terminal 1 will also separate arriving and departing passenger traffic with an elevated departures roadway that will include curbside check-in.

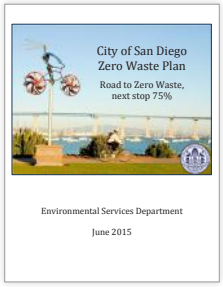


A new on-airport entry roadway will provide a dedicated Airport access point from west-bound Laurel Street and North Harbor Drive, for vehicles coming to the Airport from the east, and will also include a multi-use path for pedestrians and bicyclists. This will help reduce traffic on North Harbor Drive. In addition, all buses currently moving to and from the Rental Car Center will be removed from Harbor Drive and routed exclusively through the new on-airport entry and link road. On the airside, Taxiway B will be realigned to meet FAA standards and a new Taxiway A will allow bidirectional flow of aircraft. Future phases could include an expansion of Terminal 2 West (the Stinger). Areas have also been preserved for a transit station to directly serve the terminals and for on-airport exit lanes that can be integrated into future regional transportation network improvements, which are now being evaluated as part of SANDAG's new Regional Transportation Plan. Please note that the Authority, at this time, has not approved or committed to undertake any of the project elements included in the ADP. Any formal approval of the ADP is dependent on completion of appropriate state and federal environmental review.

The ZWP is a part of the Authority's broader sustainability management planning framework, helping to establish long-term environmental stewardship goals for the Airport. As such, the ZWP will help inform the further design and implementation of the ADP, as well as guide the Airport's daily operations in the future.

Local:

- City of San Diego Recycling Ordinance O-2008-30 (2007)
- City of San Diego's Zero Waste Plan (2015)
- City of San Diego Climate Action Plan (2015)
- City of San Diego Construction and Demolition Debris Diversion Deposit Program (2016)
- City of San Diego Polystyrene Ordinance O-21030 (2019)



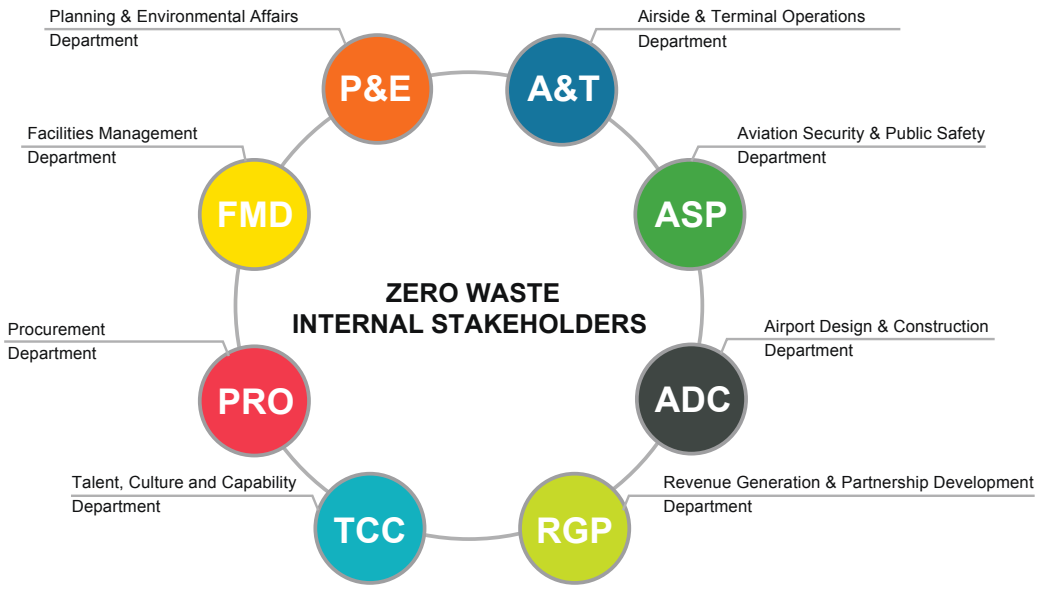
Stakeholder Engagement

Stakeholder engagement is central to the fulfillment of a zero waste strategy. The Authority can implement improvement actions in areas where it has more control, but needs to engage business interests and other third parties because, as noted previously, it has various levels of influence over these key stakeholders and their respective waste streams. This is in addition to engaging the local and regional community on waste-related topics such as eliminating single-use plastics, collecting and composting organic waste, improving waste infrastructure, and raising awareness of zero waste policy issues. Considering key internal and external stakeholders related to all these topics is essential for ensuring a holistic approach to stakeholder engagement and optimizing buy-in, accountability, and support for sustainable zero waste strategies. Further, the Authority will prioritize voluntary programs, when possible, to help facilitate and maintain Airport stakeholders' access to federal and state grant funding for implementation of waste reduction strategies.

Internal Stakeholders

Workshops were held with internal stakeholders during key milestones of the ZWP development to ensure accurate information and alignment with Airport operations, and to identify the best and most feasible goals and initiatives. Staff from the following departments participated in these workshops and provided supporting background information for plan development (Figure 7):

Figure 7: Authority Departments Involved in the Development of the Plan



External Stakeholders

To improve materials management practices, enhance environmental performance, increase public participation, and drive reductions in waste generation, it is crucial that the Authority engages with the community, traveling public, regional planning partners, Airport business partners, and service companies. As such, the Authority is committed to continued and expanded collaboration and partnerships to achieve waste reductions with external stakeholders (Figure 8), such as:

- Individual airlines to collaborate and partner on recycling and organic waste collection
- Waste management providers, tenants, and other organizations operating at the Airport to work together on the development and implementation of zero waste strategies
- The Aviation industry, including other Airports and industry organizations, to collaborate on funding for research and development, and creative ways to eliminate or reduce waste at airports
- Regional planning partners to strategize on ways to further initiatives such as encouraging innovative approaches to eliminating and reducing waste, expanding markets for recyclable materials, and adding capacity for organic waste composting
- Other public/external organizations where engagement is appropriate to advance zero waste policies at the Airport

Figure 8: Main External Stakeholder Groups for the Authority's ZWP

02

Goals and Targets

The Authority has established goals and evaluation metrics as a driving framework for reducing waste generation by expanding the procurement of environmentally preferable products, and other sustainable waste reduction methods, including advancing supporting infrastructure.

The Authority has identified three aspirational goals and related targets representing the foundation of the zero waste strategy. The goals were developed through an information gathering and validation process, by combining analysis of existing plans, policies, and regulations with the identification of the main drivers for zero waste at the Airport, and via validation with feedback from Airport stakeholders. The goals represent where the Authority aspires to be in the next 15-20 years; consequently, they are the engine for the development and implementation of initiatives that will improve sustainability performance for materials and waste management performed at the Airport. The goals are built to maximize waste reduction and responsible resource management, while also addressing other key topics such as sharing information, and engaging with stakeholders and the community to advance new approaches.

While the goals are broad and strategic in nature, they have been developed with one or more metrics, related targets, and timeframes for achievement that allow for quantitative and practical management and the ability to convey progress to a larger audience. The three goals and related key information, including metrics, targets, and timelines for implementation are summarized in Table 1 and described in the following sections.

Table 1: ZWP Goals and Targets

Aspirational Goals	Metric(s)	Target(s)	Target Timeframe
1. **Reduce waste generation**	Reduce the amount of material discarded per employee and passenger	5% reduction in total discarded material	2025
		10% reduction in total discarded material	2035
2. **Increase waste diverted from landfill**	Meet or exceed the City and State waste diversion targets and timeframes	Achieve 90% Diversion Rate[7]	2035
3. **Demonstrate regional and industry leadership in zero waste**	Engage Authority, aviation industry, and regional stakeholders to share best practices and amplify impact of sustainable materials management and waste reduction programs	Promote and participate annually in four working groups coordinated by the Authority or stakeholders	2025
	Provide regional and industry leadership and zero waste solutions	Achieve TRUE[8] zero waste or equivalent third-party certification	2035

Source: Developed as part of Authority inter-department outreach, Fall 2018.

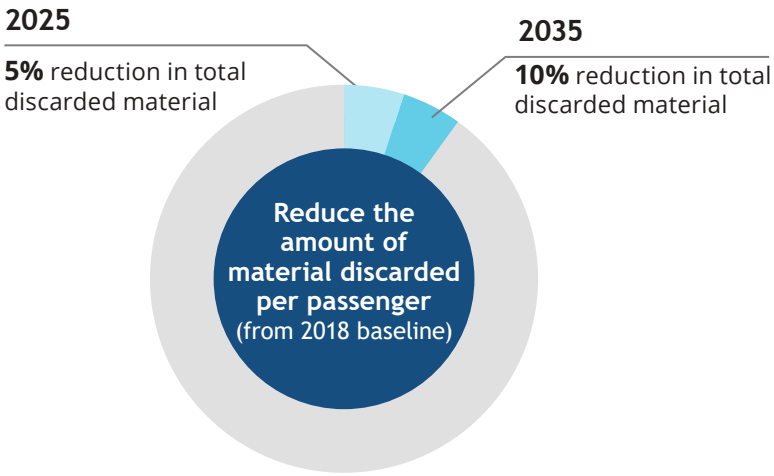
The goals and associated initiatives identified in the ZWP have a time horizon that spans through 2035; however, given the pace of change occurring in the regulatory landscape (particularly in California) and with the developments regarding commercial composting availability, single-use plastic bans, and changing materials markets, the goals and initiatives will be reviewed periodically (e.g., every 5 years) and revised as needed to adapt to potential changes. For example, targets and timeframes could be subject to change due to the market for organics and all recyclables that will evolve based on technology improvements and cost.

Goal #1 – Reduce waste generation.

The U.S. Environmental Protection Agency (EPA) considers source reduction the single most impactful component of the waste reduction hierarchy. The Authority recognizes that, if applied properly, source reduction strategies can also be among the most cost-effective and lasting means of attaining substantial gains on the path to zero waste. By leveraging contract specifications, lease language, and minimum certification requirements for third-party contracts, the Authority has chosen to enact a framework that accelerates a long-term, prescriptive approach to preventing waste before it starts. Stipulating more effective practices at the top level averts inefficient management downstream, eliminating staffing hours and waste hauling needs—all while reducing carbon emissions.

As part of this goal, the Authority aspires to reduce the overall amount of material discarded and will actively track waste reduction on a per-passenger basis. For each calendar year, the ratio between total waste generated at the Airport and total number of passengers will be calculated. As operations expand, tracking waste reduction in this manner provides a clearer representation of waste reduction efforts. The waste reduction goals are 5% reduction in discarded material in 2025 and 10% reduction in 2035 compared to a 2018 baseline of 0.57 pounds per passenger. See Appendix A for more details.

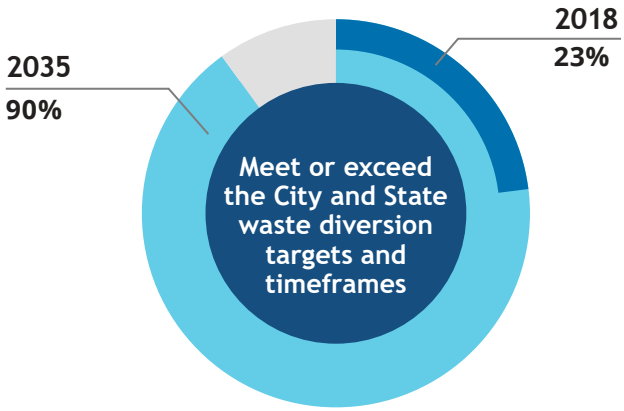
With significant infrastructure upgrades on the horizon, the Authority also sees an opportunity to incorporate minimum green building and infrastructure performance requirements into design-build contracts for third parties. By encouraging Whole Building Life-Cycle Assessments[9] for all projects, and ensuring that specific thresholds[10] are met related to building product disclosures, the Authority will continue to prioritize a strong commitment to sustainable materials management and waste reduction on construction projects by 2025.



Enabling Factors	Potential Obstacles
• Internal interest in expanding waste reduction language in leases/contracts • Increasingly transparent and informative product disclosures • Waste reduction activities are more cost-effective when compared to downstream handling costs	• Driving behavioral change that results in less consumption can be challenging • Environmentally preferable product options may be more expensive • Possible impacts to department and project costs and budgets

Goal #2 – Increase waste diverted from landfill.

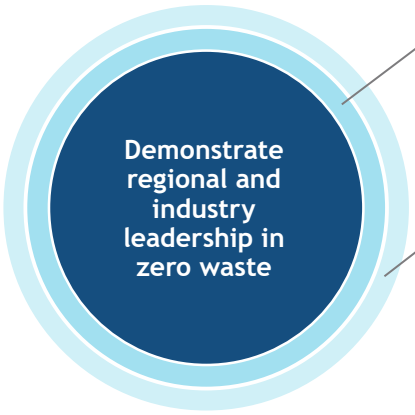
The Authority is committed to meeting regional and statewide goals for solid waste reduction. Despite the unique challenges inherent to operating in an airport environment, the Airport has a strong history of success and received multiple awards. The current program includes an efficient centralized recycling and waste disposal facility, robust food waste diversion and edible food donation programs, and a SAN Green Concessions Program that incentivizes maximum participation in tenant waste and recycling efforts. To meet the threshold of the City of San Diego's ambitious 90% waste diversion goal by 2035, and State goals for organic and yard waste of 50% by 2025 (per AB 1826), the Authority's waste reduction program will push even further. Programmatic success will require improving data collection and analysis methods, enhancing training/outreach strategies to improve internal stakeholder participation, and incorporating optimized waste collection areas in the development of new infrastructure projects.



Enabling Factors	Potential Obstacles
• If approved, large capital project (Terminal 1 redevelopment) allows for significant waste infrastructure upgrades • Current program is well-supported and displays year-to-year, continuous improvement • Regulations require compliance; timeframe allows for flexibility • Current pairing of landfill and recycling containers • Dedicated infrastructure for various streams of recyclables and compostables • Opportunity to design future buildings to meet operational and zero waste goals	• Airport's constrained 661-acre site limits available space for additional onsite infrastructure • High pressure, fast-paced operating environment with consistently changing passenger base • High variability in commodity prices for recycled materials and overall instability in domestic and overseas recycling markets • Employee turnover • Need for consistent training and dedicated waste management staff

Goal #3 – Demonstrate regional and industry leadership in zero waste.

Recognizing that the pursuit of zero waste goals does not end at the Airport's front door or fence line, the Authority will promote the adoption of materials management best practices both regionally and in the aviation industry. While efforts of this nature extend beyond the Authority's direct control, encouraging proactive knowledge-sharing strategies helps to ensure internal program success and demonstrates a larger responsibility to amplify the impact of the Airport's program. Locally, the Authority will take an active role in the community's waste reduction efforts by participating in City and County workshops and waste management advisory committees, which help large organizations to meet the City of San Diego's Zero Waste Plan. Additionally, by taking part in aviation industry initiatives and contributing to the aggregation of resources, the Authority will share and receive information related to sustainable procurement policy, contracts, lease language, and other methods of upstream waste prevention. Finally, the Authority will pursue TRUE zero waste certification or an equivalent program. Innovation has been a key ingredient to the success of waste reduction efforts at the Airport. As such, the Authority will continue to support the cultivation of novel approaches to waste reduction and generation, and share the ongoing development of these resources via local outreach and pilot programs.



2025

Promote, coordinate, and participate in four annual waste focused working groups

2035

Achieve TRUE zero waste or equivalent third-party certification

Enabling Factors	Potential Obstacles
• Leadership positions within the Airport industry's environmental and sustainability committees • A history of effective collaboration with local and industry-led initiatives • New City and State regulations that encourage innovation	• Knowledge-sharing requires time and organization • Most organizations tend to prioritize resources internally rather than externally


RECYCLABLES
ONLY
Bottles, Cans, Paper, Cardboard
RECYCLING

03

Zero Waste Focus Areas and Initiatives

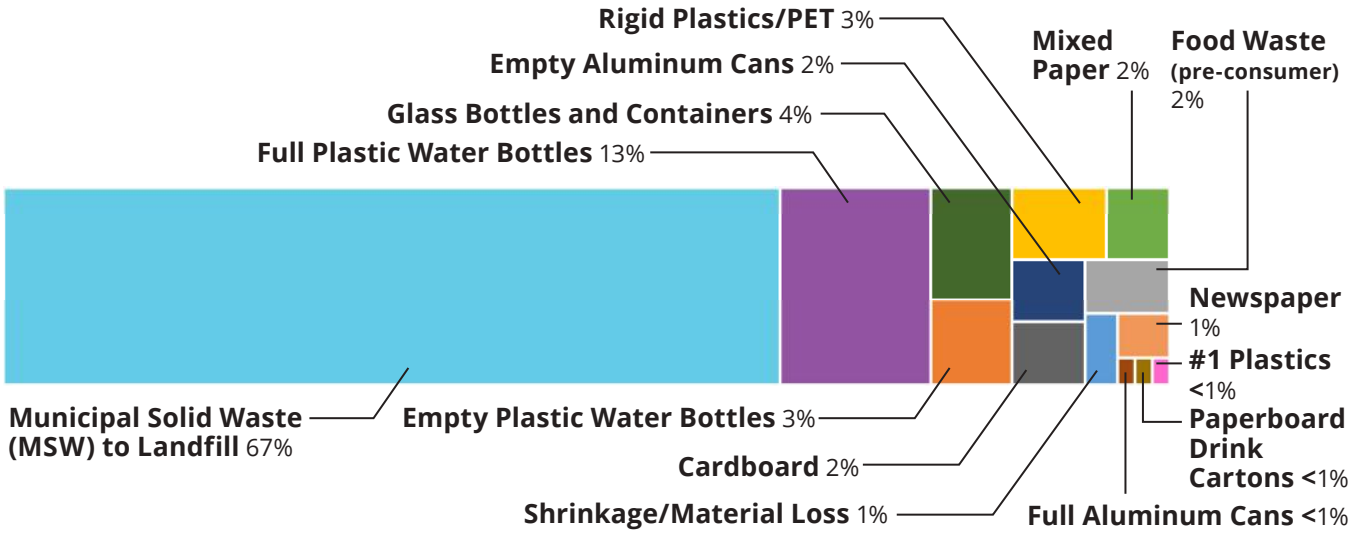
The Authority has established a comprehensive and progressive set of focus areas and associated initiatives to achieve zero waste and expand adoption of methods that improve materials management practices across Airport operations.

Programmatic focus areas and a set of initiatives help to advance progress for the zero waste strategy. The focus areas serve as the basis for evaluating performance (i.e., through a baseline assessment) and organizing the goals, targets, and initiatives that the Authority will implement to improve waste reduction. The selection of focus areas and supporting initiatives was informed by the analysis of Airport operations and validated with feedback from Airport stakeholders.

Developing Focus Areas to Advance Zero Waste

A fundamental step in the development of the ZWP was to evaluate waste generation at the Airport. The basis for this analysis was observations of waste management infrastructure and procedures, interviews with Authority staff and tenants, and document reviews including the Authority's Waste Characterization Study that was conducted by the Authority's waste contractor and included the landfill waste and single-stream recycling compactors. Figure 9 presents the results of the 2018 waste characterization and shows potentially recyclable wastes that were incorrectly placed in solid waste containers reflecting missed opportunities to recycle. The largest proportion of potentially recyclable material noted in the waste stream were plastic water bottles, which were not empty, and glass.

Figure 9: Airport 2018 Waste Characterization Results*



* This study reflects a representative sample of materials taken for the waste characterization (by weight).

Tracking and monitoring waste streams also represent a method for managing and monitoring progress in terms of environmental, economic, and social considerations. In general, the sources of waste at the Airport include:

- Terminal and administrative office operations (e.g., paper, plastic, glass, product and food packaging, restroom hand towels, furniture, clothing/voluntarily abandoned items, newspapers/magazines, and toner cartridges)
- Aircraft and cargo hangars (e.g., oil, grease, batteries, electronics, light bulbs, plastic, and vehicle waste such as tires and fluids [brake, transmission, etc.], wooden pallets, cardboard, and plastic and glass packing material)
- Construction projects (e.g., land clearing, excavation, and/or the construction, demolition, renovation or repair of structures, roads, and utilities)
- Landscape maintenance (e.g., tree, shrub and grass clippings, leaves, weeds, and small branches)
- Facilities and equipment maintenance (e.g., paints, solvents, adhesives, batteries, and waste fuel)
- Food service (i.e., food that is not consumed or is the waste generated and discarded during food preparation activities)
- Aircraft flights (i.e., landfill waste that is removed from passenger aircraft)
- Airside ramp operations (e.g., paper scraps, earplugs, plastic scraps, zip ties, packaging materials)

However, the Authority has varying levels of control and influence over each of these sources. Some sources, such as the Authority offices, represent an area where the Authority has significant control and influence while other areas, like passenger aircraft, the Authority can only influence.

To ensure an effective path toward zero waste, five focus areas were identified to be included in the ZWP that reflect the Airport's waste management operations.

- Sustainable Materials Management (SM) – using and reusing materials more productively over their entire life cycles[11]
- Infrastructure and Development (ID) – obtaining and deploying effective solid waste infrastructure to meet zero waste goals, constraints, and future development
- Training and Education (TE) – developing awareness and promoting participation in achieving zero waste goals
- Metrics and Reporting (MR) – obtaining quality waste data and implementing uniform measurement and tracking that apply across operations
- Leadership and Influence (LI) – identifying, implementing, and sharing new ideas for reaching zero waste

The initiatives, tactics, and overall goals often drive benefits for more than one focus area. In general, the initiatives and tactics support progress toward one or more goals; however, some initiatives have a broader scope that supports the advancement of the zero waste strategy as a whole. The following sections provide a comprehensive summary of each focus area and the related initiatives and tactics. Further information about the implementation of these initiatives is provided in the Implementation and Monitoring section of the ZWP.

Sustainable Materials Management

The EPA defines sustainable materials management as a "systemic approach to using and reusing materials more productively over their entire life cycles representing a change in how our society thinks about the use of natural resources and environmental protection[12]." In keeping with this updated view of materials management, the Authority has identified the following strategies to reduce waste not just at the point of generation but also across the entire supply chain.

Initiatives

- **SM-1: Eliminate or reduce single-use and other plastics.** The need for innovative and practical strategies to manage plastics has never been more important. Of the nearly 8 billion metric tons of plastic that have been manufactured to date, over half have been produced in the last 15 years and 91% of it is not recycled[13]. Changing course will require leadership, and the Authority is responding to the challenge by exploring techniques to reduce single-use plastics including bans on plastic bags, straws, and Styrofoam containers. Alternative management strategies to avoid use of these materials will be prioritized at the staff, procurement, and tenant level, and implementation will be achieved by developing guidance for product options based on environmental impact. Choices for plastic film reduction across operations, and baling/recycling the resulting amounts used, will be explored along with alternatives for disposable single-use items such as drink cups, dishware, utensils, plastic packaging, and gloves.
- **SM-2: Increase collection and composting of organic waste.** Given its weight and contribution to methane emissions, reducing food waste is among the most effective ways to improve waste program performance. The Authority will incorporate several tactics to ensure its organic waste program is functioning optimally, including: expanding the reach of its food waste collection program via increased tenant participation and improved data collection, exploring front-of-house composting, and adding napkins and paper towels into the food waste collection program. Additionally, the Authority will participate in food waste reduction opportunities (e.g., the U.S. Food Loss and Waste 2030 Champions program) and invest time and outreach resources toward increasing concessionaire participation in both the food waste collection and food donation programs.
- **SM-3: Increase collection, reuse, and recycling of various materials.** In addition to addressing the most significant contributors to the overall waste stream, continuing to improve on the foundation of the Airport's waste reduction program will depend on identifying less obvious opportunities to manage materials. Determining new methodologies for increasing cardboard collection, such as including additional equipment (e.g., compactors, balers, and/or roll-offs) will allow for potentially better market return/revenue and higher material diversion potential. Creating a more comprehensive program for "orphan materials" such as abandoned luggage, lost and found items, and other passenger generated objects that are not currently accepted or managed by other established systems, will also be undertaken.
- **SM-4: Track material markets to maximize revenue generation opportunities.** The global system of managing waste and recycled materials is driven by a complex interplay of managers, brokers, and material processors. The markets are ever-changing, and the Authority understands that by continuing to monitor and respond to changes, the Authority will encourage the best outcome for its waste reduction program. Multiple programmatic changes will be considered, including creating processes for separating collecting and baling of high-value commodities including aluminum and steel cans, #1 and #2 plastics, white office paper, mixed plastic, and mixed paper. These alternative collection strategies will allow for improved potential cost offset and/or revenue generating scenarios for the program. The Authority will continue to work with its waste hauler, municipalities, and other professional organizations (e.g., California Resource & Recovery Association) to identify any necessary or proactive steps to influence and respond to the changing materials market. Opportunities for reusing, repurposing, and upcycling materials will also be considered.

Table 2 summarizes the goals supported, tactics, lead department, and time horizon associated with each of the initiatives.

Table 2: Sustainable Materials Management Initiatives and Tactics

ID	Initiative	Goals Supported	Tactics	Authority Lead Department	Time Horizon
SM-1	Eliminate or reduce single-use and other plastics	1, 2	Support Authority staff, procurement, and tenants to find alternatives to single-use plastic utensils in food service areas	P&E, RGP	Near-Term
		1, 2	Implement bans on single-use plastic items	P&E, RGP	Mid-Term
		1, 2	Investigate feasibility of increasing capture and baling of shrink wrap or replace with reusable material when possible	P&E, A&T	Mid-Term
		1, 2	Investigate feasibility of replacing plastic latex/nitrile gloves with biodegradable/ green gloves and/or collect/recycle existing latex/nitrile gloves/ear plugs until alternative is in place and existing stocks are exhausted	P&E	Mid-Term
		1, 2	Identify other types of single-use plastic waste and evaluate appropriate management strategies	P&E, A&T	Long-Term
SM-2	Increase collection and recycling of organic materials	1, 2	Expand edible food donation program by increasing concessionaires' participation, improving data collection, and leveraging technology innovations	P&E	Near-Term
		1, 2	Investigate alternate compost facilities	P&E	Near-Term
		1, 2	Expand napkins and paper towels inclusion into food waste collection and recycling	P&E, A&T	Near-Term
		1, 2	Increase and maintain concessionaire participation in post-food scraps collection and composting	P&E, A&T	Mid-Term
		1, 2	Expand collection of post-consumer food waste for composting by investigating feasibility of front-of-house composting	P&E, A&T	Mid-Term
		2, 3	Consider participating in the U.S. Food Loss and Waste 2030 Champions (or similar) initiative[14]	P&E	Mid-Term
		1, 2	Identify opportunities to reuse/ recycle palm fronds given their unique characteristics as a waste stream	P&E, FMD	Mid-Term
SM-3	Increase collection and recycling of various waste streams	1, 2	Investigate techniques to increase single stream collection of cardboard	P&E, FMD	Near-Term
		1, 2	Find solution for items that are turned into the Lost & Found by passengers	P&E, ASP	Mid-Term

ID	Initiative	Goals Supported	Tactics	Authority Lead Department	Time Horizon
SM-4	Track material markets to maximize revenue generation opportunities	1, 2	Explore opportunities to reuse/repurpose modular buildings and cubicle parts	P&E, ADC	Near-Term
		1, 2	Explore opportunities to collect white office paper as single stream, loose, and seek revenue/credit	P&E, A&T	Mid-Term
		1, 2	Follow mixed plastic and mixed paper markets to identify opportunities, and adjust collection/sorting procedure as needed	P&E, A&T	Mid-Term
		1, 2	Explore opportunities to collect #1 and #2 plastic as single stream, bale, and seek revenue/credit	P&E, A&T	Mid-Term
		1, 2	Explore opportunities to collect aluminum and steel cans as single stream, bale and seek revenue/credit	P&E, A&T	Mid-Term

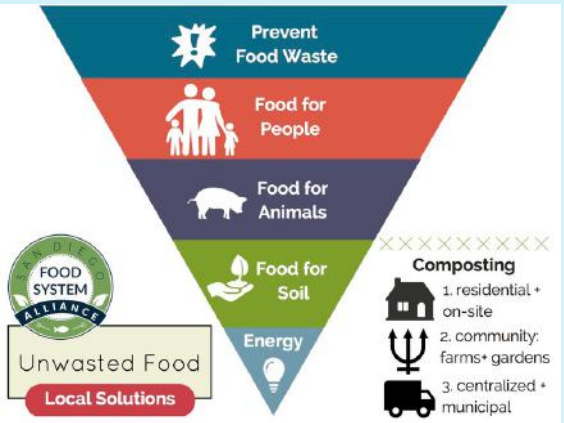
Notes:
Goal 1 – Reduce waste generation
Goal 2 – Achieve zero waste in alignment with City and State goals
Goal 3 – Demonstrate regional and industry leadership in zero waste

Near-Term – Now to 5 years out (2019–2023)
Mid-Term – Over 5–10 years (2024–2028)
Long-Term – 10+ years (2029–2035)

A&T – Airside and Terminal Operations
ADC – Airport Design and Construction
ASP – Aviation Security and Public Safety
FMD – Facilities Management
P&E – Planning and Environmental Affairs
RGP – Revenue Generation & Partnership Development

Spotlight: Food Donations

While the Authority focuses on capturing food waste throughout the Airport terminals and restaurants, another method to reduce the organics waste stream is to collect edible food that could be diverted and donate it to feed the community. The total amount of edible food recovered and donated in 2018 was 102,035 pounds, an 89% increase from 2017. This large increase is a result of the growth of the edible food donation program and more concessions continuing to salvage and donate edible food instead of composting or sending to landfill. Based on the U.S. Department of Agriculture's estimate that the average meal weighs 1.2 pounds, that equates to over 85,000 meals that Airport concessionaires have donated to the USO and the San Diego Rescue Mission.



Source: http://www.sdfsa.org/emies-awards-for-unwasted-food-2018

Infrastructure and Development

Maintaining and developing waste management infrastructure is an essential component to continuously improving a waste reduction program.

Additional capacity to handle diverted materials, development of more efficient and functional physical spaces, and improved public-facing waste reduction opportunities will all drive progress toward the Authority's zero waste goals. Table 3 summarizes the goals supported, tactics, lead department, and time horizon associated with each of the following initiatives.

Initiatives

- **ID-1: Optimize and improve waste management infrastructure.** Meeting the need for collection infrastructure that appropriately aligns with the shift toward zero waste goals will involve close attention to details, and dedication to getting many smaller facets of the program improved. The Authority will evaluate and periodically re-evaluate the collection and disposal systems (e.g., reducing the size and number of trash containers and increasing recycling containers, standardizing the look and "branding" of collection, improving bin location, adding collection to underserved areas, and maintaining a map of all collection locations). Additionally, the Authority will determine the feasibility of eliminating the use of plastic liners to collect recyclable materials, and evaluate programmatic changes to allow for better scrutiny of who is using key waste facilities. Expanding the use of compactors to additional tenants will also be considered.
- **ID-2: Optimize operation of sorting facilities for Airport-generated waste and recyclable materials.** To maximize the most efficient preventative efforts and guarantee proper separation of waste and recyclable materials, the Authority will explore the possibility of creating one or more waste sorting areas. This would allow for the prioritization of maximum waste diversion offsite and facilitate better data collection opportunities in support of ongoing program improvement.
- **ID-3: Evaluate and implement measures to reduce wet waste.** Misplaced liquid waste can negatively impact a waste reduction program in multiple ways. Comparatively, liquid is heavy and adds detrimental weight to landfill waste streams. Additionally, liquid from partially filled bottles and cups, when placed in recycling containers, significantly reduces the value and ability to recycle materials like paper and cardboard. To mitigate this, drains have been added to compactors. To further prevent these outcomes, the Authority will explore several measures to minimize wet waste. Current usage of liquid collection stations will continue to be monitored and will be evaluated for peak performance. To address airline ice, melt sinks and ice barrels will be considered, and water collected in this capacity may be used for non-potable purposes. Additional public-facing water bottle refill stations will also be installed and paired with an awareness campaign to encourage usage of liquid collection stations and container reuse.
- **ID-4: Evaluate and implement infrastructure to reduce single-use dishware/glassware/utensils.** Making waste reduction a priority can lead to multiple positive outcomes. Instead of continuing to offer disposable products like plastic dishes, cups, utensils, and other containers that are used once and discarded, the Authority will evaluate implementing the addition of reusable dishware/glassware/utensils and dishwashers at various locations. This will reduce the amount of single-use waste material that is generated in Airport facilities, meeting areas, and food courts, and result in cost savings over time as the Authority utilizes durable dishware to replace these items and dishwashers to clean the items. A precedent has been set by the full-service restaurants at the Airport, and lessons learned can be extended to other food service areas.
- **ID-5: Optimize cardboard collection to increase quantity and quality.** Recycled cardboard remains in high-demand despite the challenges for other recyclable commodities. Additionally, cardboard is the Airport's most common material found in commingled recycling containers. The Authority is committed to best practices in handling this material and will explore a number of strategies to maximize its collection (e.g., more space to improve the accessibility of onsite cardboard baling equipment and better collection apparatus). The Authority will also seek to identify new locations that may benefit from the purchase and installation of additional cardboard balers. To address collection for cardboard where balers are infeasible, additional collection equipment such as a dedicated compactor or front-end load containers will also be considered. Investing in infrastructure to effectively manage cardboard over the long term is an action that will benefit both the environmental and economic outcomes of the Authority's materials management program.

- **ID-6: Evaluate and implement infrastructure to support organic waste collection in public areas.** Each day, the traveling public generates a significant amount of food waste at the Airport. Because of its excessive weight and significant contribution to GHG emissions[15], preventing food waste wherever possible is an essential part of a successful waste reduction program. With a highly effective back-of-house organic waste collection program already in place, a public-facing food collection program will be pursued by the Authority. While developing an effective program of this nature in an airport setting faces many challenges (e.g., ever-changing stakeholders, time constraints), the impact cannot be overlooked. To ensure success, the Authority will begin by assessing the feasibility of installing a central waste station in food court areas. The proposed waste station would offer managed food waste collection, in addition to recycling and landfill options, and ideally would be staffed to encourage program efficacy. Operational challenges including contamination rates will be considered, and new/innovative collection systems will be monitored closely.
- **ID-7: Establish centralized waste collection areas at strategic locations to support efficient separation of waste.** Managing the inbound and outbound flow of all waste and recyclable materials within the context of a centralized, controlled environment is one of the key ways to increase the probability of a successful waste reduction program. Data collection, outreach, monitoring, and rewards programs are all simplified, when specific areas are dedicated to materials management. To properly design this type of system, the Authority will evaluate the opportunity to create centralized waste collection areas during planning processes for new building projects. Dedicating space to operations prior to construction will ensure a better long-term return on investment of any waste/recycling scenario. Part of creating the proper operating environment in centralized waste areas also includes identifying the correct equipment for all personnel, and accounting for the correct space considerations. To meet these needs, the Authority will isolate specific procedures and space for managing both large/bulky materials.

Spotlight: Liquid Waste Collection Units

The Authority has multiple mobile liquid collection units ("dump sinks") located at security checkpoints throughout the Airport's terminals. Since containers carrying over three ounces of liquid cannot be taken through the passenger screening checkpoints, passengers must leave behind or empty out their bottles full of liquid. As a result, a large portion of recyclables are being improperly disposed of as trash and excessive amounts of liquid contaminates the recycling loads. The liquid waste containment units allow travelers to dispose of liquids and then place the empty container into the recycling bins located next to each unit or to carry the empty bottle through security and refill it. The liquids are then properly disposed into the sanitary sewer. In 2018, the liquid containment units collected approximately 92,000 gallons of liquid. A pilot project was conducted that added a second unit post document-checker at a security checkpoint. This resulted in significant liquid waste as well. Based on these results, the Authority calculated that each unit collected approximately 15,000 gallons of liquid a year, which equals 127,000 pounds or 64 tons of liquid that may otherwise have been placed in the recycling or landfill bins.

Table 3: Infrastructure and Development Initiatives and Tactics

ID	Initiative	Goals Supported	Tactics	Authority Lead Department	Time Horizon
ID-1	Optimize and improve waste management infrastructure	1, 2	Optimize collection infrastructure by reducing number and size of trash bins as well as increasing number of recycling bins	P&E, FMD	Near-Term
		1, 2	Identify optimal bin placement/locations including areas not currently served (e.g., parking lots)	P&E, A&T, FMD, GT	Near-Term
		1, 2	Investigate feasibility of making all compactors accessible to all parties (airside vs. secure, airlines vs. tenant)	P&E, A&T, ASP	Near-Term
		1, 2	Ensure all new construction or renovation projects have adequately designed/assigned space for the appropriate waste management infrastructure	P&E, RGP, ADC	Near-Term
		1, 2	Maintain updated map of Authority and non-Authority waste and recycling collection locations	P&E, A&T, ADC	Near-Term
		1, 2	Ensure all gates have access to a Foreign Object Debris (FOD) container and consider separation of recyclable material from the containers	P&E, A&T	Near-Term
		1, 2	Investigate feasibility of eliminating and reducing plastic liners in recycling bins	P&E, A&T	Mid-Term
		1, 2	Investigate feasibility of standardizing recycling bins with consistent look in public areas and offices	P&E, A&T, PRO	Mid-Term
		1, 2	Work toward reducing the number of landfill compactors as waste diversion efforts succeed	P&E, A&T	Mid-Term
		1, 2	Investigate the feasibility of single stream collection for higher value waste streams (e.g., aluminum) and build in flexibility to accommodate changes in recycling market prices	P&E, A&T	Mid-Term
		1, 2	Investigate feasibility of requiring badging to access key waste facilities (e.g., sorting area, boneyard) or implement a RFID tracking system	P&E, A&T	Long-Term
ID-2	Optimize operation of sorting facilities for Airport-generated waste and recyclable materials	1, 2	Investigate feasibility of implementing centralized compactor(s) sorting areas with satellite locations for trash and recycling collection close to the terminals	P&E, A&T	Near-Term
		1, 2	Investigate feasibility of staffing trash/recycling compactor sorting area(s) to support correct separation of items	P&E, A&T	Long-Term
ID-3	Evaluate and implement measures to reduce wet waste	1, 2	Continue monitoring performance of dump sinks and determine optimal locations for maximizing use and consider expanding program	P&E, A&T	Near-Term
		1, 2	Investigate feasibility of providing melt sinks for airline ice or barrels to collect airline ice for water/irrigation	P&E, A&T	Near-Term
		1, 2	Install and advertise more water bottle filling stations post-security and encourage pre-security use of water/beverage only dump sinks	P&E, A&T, MAS	Near-Term

ID	Initiative	Goals Supported	Tactics	Authority Lead Department	Time Horizon
ID-4	Evaluate and implement infrastructure to reduce single-use dishware/ glassware/ utensils	1, 2	Encourage use of reusable dishware in Authority facilities, meeting areas, and food court within the terminals (e.g., install dishwashers)	P&E, A&T	Long-Term
		1, 2	Investigate feasibility of installing a digester for compostable dishware or hauling compostable material to a third-party facility	P&E, A&T	Long-Term
ID-5	Optimize cardboard collection to increase quantity and quality	1, 2	Improve accessibility to cardboard baler, and provide bigger container for cardboard to prevent jams in the equipment	P&E, A&T	Mid-Term
		1, 2	Investigate container solutions for large cardboard stream (e.g., compactor, rolloff, low boy)	P&E, A&T	Mid-Term
		1, 2	Investigate feasibility of increasing number and size of cardboard balers on the campus	P&E, A&T	Mid-Term
ID-6	Evaluate and implement infrastructure to support organic waste collection in public areas	1, 2	Investigate feasibility of implementing central waste station in food courts with food waste collection and provide staff to manage the station	P&E, A&T	Mid-Term
		1, 2	Investigate feasibility of providing passenger access to compost collection in food courts	P&E, A&T	Mid-Term
		1, 2	Investigate feasibility of a three-bin system in some or all public places (compost, landfill, and recycle)	P&E, A&T	Mid-Term
ID-7	Establish centralized waste collection areas at strategic locations to support efficient separation of waste	1, 2	Consider incorporating centralized waste collection areas in the planning phase of new projects	P&E, A&T, ADC	Near-Term
		1, 2	Consider identifying procedures or a location for managing bulky item collection area for Authority and tenants	P&E, A&T	Mid-Term
		1, 2	Investigate feasibility of a pilot program to address regulated waste from international flights	P&E, A&T	Mid-Term

Notes:
Goal 1 – Reduce waste generation
Goal 2 – Achieve zero waste in alignment with City and State goals
Goal 3 – Demonstrate regional and industry leadership in zero waste

Near-Term – Now to 5 years out (2019–2023)
Mid-Term – Over 5–10 years (2024–2028)
Long-Term – 10+ years (2029–2035)

A&T – Airside and Terminal Operations
ADC – Airport Design and Construction
ASP – Aviation Security and Public Safety
FMD – Facilities Management
GT – Ground Transportation
MAS – Marketing and Air Service Development
P&E – Planning and Environmental Affairs
PRO – Procurement
RGP – Revenue Generation & Partnership Development

Training and Education

It is essential that all stakeholders be equipped with the instruction necessary to meet program needs, as the difference between success and failure is often determined at the user interface. The right deployment of training methods will require a significant investment in time and resources; however, by following the initiatives detailed in this focus area, the Authority will be able to maximize efficiency, encourage participation, and continue to build a strong culture in support of waste minimization across operations.

Initiatives

- **TE-1: Enhance training and education to increase participation of staff, concessionaires, and tenants in waste diversion efforts.** Many of the most impactful waste reduction efforts at the Airport depend on effective communication and mobilization of thousands of airport employees each day. Significant improvements to the food donation and diversion programs, which in 2017 prevented a combined total of over 423 tons of food from entering the landfill[16], could not have been accomplished without effective employee training. To meet the requirements of zero waste, additional and recurring training and outreach improvements will be required for staff, concessionaires, and tenants in all areas of the Airport. These initiatives will refocus training on current activities, such as equipment operation and waste protocols, while adding expanded opportunities for leadership and compliance including certifications and the potential establishment of a facilities-wide Green Team.

Spotlight: Sustainability Fairs

The Authority hosts two Sustainability Fairs each year that give the approximately 10,000 Airport employees the opportunity to recycle electronic and universal waste, donate household items, and learn about waste management and reduction. Employees are encouraged to bring items from home and work to contribute to the recycling and reuse efforts. In addition, the Authority invites community groups to participate by educating attendees on how to live a more sustainable lifestyle. The Sustainability Fair includes a variety of incentives such as green giveaways. The Authority aims to provide education and resources on going green to everyone who works and passes through the Airport. At the Fairs, special emphasis is placed on effective waste management, zero waste principles, and rethinking the way we produce and manage waste. The two Sustainability Fairs held in 2018 resulted in the following successes:

- 230+ participants attended and learned about waste reduction and materials management
- 6 large bins were filled with household items and donated to charity for reuse
- Over 8.5 tons of e-waste was collected and recycled offsite
- Many batteries were collected and contributed to the Authority's overall 1.36 tons of batteries recycled in 2018
- 6,565 light bulbs (over 1,200 pounds) were collected for recycling offsite

- **TE-2: Educate passengers on the Airport's sustainability efforts and how to actively contribute.** To achieve zero waste goals, it will be essential that passengers understand their role in contributing to program success, and enjoy their participation in the process. Given the transient, fast-paced nature of air travel, often one of the largest barriers to waste reduction improvement in airports occurs at the level of public participation. However, by utilizing Airport ambassadors to share friendly tips and advice, promoting interesting sustainability tie-ins with airlines and TSA via social media, and sharing wisdom via updated digital monitors throughout the terminal, travelers will receive ongoing feedback about the many opportunities to contribute to the Airport's effective waste minimization program.
- **TE-3: Monitor and reward good performance in implementing proper waste diversion practices.** Maintaining a high-functioning waste reduction program depends on clear goals, effective two-way communication, and building in a strong system of incentives. Ongoing inspections in highly-trafficked areas will be introduced in tandem with more stringent waste/recycling separation policies. To help nudge success, proven outreach techniques such as public rewards for staff that go above and beyond expectations in the SAN Green Concessions Program, and implementation of in-the-moment recognition for those doing the "right thing" in service areas, will inspire continued improvement and programmatic goodwill.
- **TE-4: Improve signage to better identify and educate users about what can be recycled.** Installing attractive, eye-catching, and consistent signage, with strong visual cues, is one of the best ways to reduce contamination associated with public-facing waste collection. By maintaining containers (public-facing and back-of-house) that are consistently updated with program and regulatory demands, the Authority will encourage the best results possible from its program. Placing reminders in areas of high traffic and high visibility about City recycling standards, such as terminal walkways, food courts, and via the Common Use Passenger Processing (CUPPS) dynamic signage system, will also reinforce waste management messaging, keeping awareness and recycling expectations at the top-of-mind.

Table 4 summarizes the goals supported, tactics, lead department, and time horizon associated with each of the initiatives.

Table 4: Training and Education Initiatives and Tactics

ID	Initiative	Goals Supported	Tactics	Authority Lead Department	Time Horizon
TE-1	Enhance training and education to increase participation of staff, concessionaires, and tenants in waste diversion efforts	1, 2	Re-educate/re-train Authority and tenant staff to increase proper use disposal/recycling practices including use of cardboard baler (i.e., flatten boxes)	P&E, A&T	Near-Term
		1, 2	Educate janitorial staff on dump sink use	P&E	Near-Term
		1, 2	Evaluate areas that are generating more waste and provide a waste diversion message that focuses on those groups (e.g., airline vs. concession vs. tenants)	P&E, A&T, MAS	Near-Term
		1, 2	Investigate feasibility of developing training modules for all badged employees (both current and new hires) on waste management practices	P&E, A&T	Near-Term
		1, 2	Explore training opportunities/certifications related to waste management and zero waste for Authority staff	P&E	Mid-Term
		1, 2	Consider establishing a Green Team with "champions" to monitor their areas and report on successes and actions needing improvement	P&E, A&T	Mid-Term
		1, 2	Consider Notices of Violations for improper waste diversion/handling practices by all badged employees	P&E, A&T	Long-Term

ID	Initiative	Goals Supported	Tactics	Authority Lead Department	Time Horizon
TE-2	Educate passengers on the Airport's sustainability efforts and how to actively contribute	1, 2	Look for opportunities to work with the airlines to educate passengers on effective waste management practices	P&E, A&T	Near-Term
		1, 2	Educate passengers on how to properly use recycling bins and dump sinks and why it is important	P&E, MAS	Mid-Term
		1, 2	Add main page on san.org on how to be a sustainable passenger	P&E, MAS	Mid-Term
		1, 2	Consider utilizing Airport ambassadors (and/or student interns, urban corps, job corps) to help passengers recycle properly	P&E, MAS	Mid-Term
		1, 2	Use social media channels to reach passengers and educate/involve them in sustainable waste management at the Airport	P&E, MAS	Mid-Term
		1, 2	Add monitors for passenger education on sustainability, including trash management, at points of waste disposal to encourage proper use of containers	P&E, A&T	Long-Term
TE-3	Monitor and reward good performance in implementing proper waste diversion practices	1, 2	Continue conducting waste management check-ins to monitor performance	P&E, A&T	Near-Term
		1, 2	Consider ways to recognize business partner achievements toward zero waste goals	P&E, RGP	Mid-Term
		1, 2	Consider requiring materials separation at time of disposal at all material recovery areas	P&E, A&T	Mid-Term
		1, 2	Amplify in-the-moment recognition program for janitorial staff to create incentives to follow waste diversion practices	P&E	Mid-Term
TE-4	Improve signage to better identify and educate users about what can be recycled	1, 2	Investigate feasibility of adding descriptive signage on public-facing waste receptacles while considering color, text, and symbols	P&E, A&T	Near-Term
		1, 2	Maintain up-to-date/current messaging regarding waste management on signage in back-of-house facilities	P&E, A&T	Near-Term
		1, 2	Display signage (e.g., What's Recyclable at the Airport) in public spaces	P&E, A&T, MAS	Mid-Term
		1, 2	Provide signage/training/education to staff and Airport users	P&E, A&T	Mid-Term
		1, 2	Use Common Use Passenger Processing Systems (CUPPS) (i.e., dynamic signage) to provide awareness/education of the recycling program	P&E, A&T, MAS, IT	Mid-Term

Notes:
Goal 1 – Reduce waste generation
Goal 2 – Achieve zero waste in alignment with City and State goals
Goal 3 – Demonstrate regional and industry leadership in zero waste

Near-Term – Now to 5 years out (2019–2023)
Mid-Term – Over 5–10 years (2024–2028)
Long-Term – 10+ years (2029–2035)

A&T – Airside and Terminal Operations
IT – Information Technology
MAS – Marketing and Air Service Development
P&E – Planning and Environmental Affairs
RGP – Revenue Generation & Partnership Development

Metrics and Reporting

Optimizing the collection, metrics, and reporting associated with waste and recycling is an essential part of maintaining an efficient operation, especially as it pertains to the nearly 8,000 tons of waste and recyclables that travel through the Airport in a given year. Recognizing that the foundation of any successful materials management program rests on the effective collection, tracking, and analysis of this information, the Authority will augment its data collection and reporting methodologies across multiple platforms.

Initiatives

- **MR-1: Improve granularity and accuracy of data on all types of waste generated at the Airport.** Evaluating where and by whom all wastes are generated, followed by visits to locations of disposal and meetings with parties responsible, will lay the initial groundwork for this process, and follow-up analyses where reporting is insufficient will round these efforts out. Once organized and established, the Authority also intends to support the ongoing enrichment of data collection processes by requiring that future contracts adhere to a set of minimum requirements for waste diversion, data provision/reporting, and incentives for alignment with zero waste goals, where applicable.
- **MR-2: Continue tenant engagement process and investigate opportunities to improve compliance.** To further support proper data collection practices and consistent programmatic upgrades, the Authority will exercise its ability to leverage waste reduction guidance at the level of tenant contracts. Controls will be instituted related to waste diversion and data management, and evaluative measures and incentives for compliance, as well as punitive action for non-compliance, will be considered. The goal is to prevent less efficient and time-consuming practices downstream in the waste management process, and encourage practical change at a level of oversight that will provide more consistent results.
- **MR-3: Identify Key Performance Indicators (KPIs), metrics, and tools needed to monitor the Airport's progress toward its waste management goals.** The Authority's ability to accurately track progress toward the zero waste goals outlined in this ZWP will depend largely on the KPIs identified. Recognizing this, an evaluation process to determine proper KPIs, both from the standpoint of various reporting frameworks and via the lens of waste stream market costs/values, will be undertaken. Improved waste management tracking systems will be employed to log KPIs, and data will continue to be shared with regional and industry-wide partners to confirm and share best practices, as well as measure the effectiveness of the accepted processes against other systems in use.

Spotlight: Recycler of the Year Awards

The Authority was recognized by the City of San Diego's Business Waste Reduction & Recycling Award Program (WRRAP) with a 2018 Recycler of the Year Award. The WRRAP is an opportunity for companies to be recognized for their exemplary waste reduction efforts. Many businesses have shown that using resources wisely leads to greater efficiency and contributes to their bottom line. Businesses who take the initiative to develop waste reduction and recycling programs help to make a difference in the quality of the City's environment today and in the future. Since the Authority's inception in 2003, it has received over a dozen Recycler of the Year Awards.

The Authority was also recognized in 2017 with an Outstanding Achievement Award by the City of San Diego as a business or organization that consistently demonstrates extraordinary efforts expanding an existing recycling program year after year.

Table 5 summarizes the goals supported, tactics, lead department, and time horizon associated with each of the initiatives.

Table 5: Metrics and Reporting Initiatives and Tactics

ID	Initiative	Goals Supported	Tactics	Authority Lead Department	Time Horizon
MR-1	Improve granularity and accuracy of data on all types of waste generated at the Airport	1, 2	Develop a registry for all waste generators working with the Authority and establish data they need to provide and procedures to gather it	P&E, A&T	Near-Term
		1, 2	Conduct periodic evaluations that confirm Authority waste/recycling requirements are met	P&E, A&T	Mid-Term
		1, 2	Conduct analysis and studies needed to improve data on waste (e.g., waste generation, characterization, bin pairing)	P&E, A&T	Mid-Term
		1, 2	Emphasize waste generation and disposal data in future contracts	P&E, A&T	Long-Term
MR-2	Continue tenant engagement process and investigate opportunities to improve compliance	1, 2, 3	Work with stakeholders (i.e., airlines and concessionaires) to compile appropriate waste-related data	P&E, PRO	Near-Term
		1, 2, 3	Align SAN Green Concessions Program with zero waste goals and waste management metrics	P&E	Near-Term
		1, 2, 3	Conduct periodic check-ins on airlines and concessions to assist tenants with compliance with the Airport's Rules and Regulations and lease requirements related to waste management	P&E	Near-Term

ID	Initiative	Goals Supported	Tactics	Authority Lead Department	Time Horizon
MR-3	Identify Key Performance Indicators (KPIs), metrics, and tools needed to monitor the Airport's progress toward its waste management goals	1, 2	Maintain an inventory of current waste streams to identify what is tracked and what is not and define a comprehensive list of metrics and KPIs that need to be tracked going forward	P&E, A&T	Near-Term
		1, 2	Perform a gap analysis comparing data currently tracked with what is needed to be able to monitor compliance with regulations, achievement of newly established goals (e.g., zero waste), and respond to reporting frameworks such as LEED, GRI, and Envision	P&E	Near-Term
		1, 2	Highlight revenue generated per waste stream (e.g., include a KPI associated with savings/revenue)	P&E, A&T	Near-Term
		1, 2	Collaborate with project teams to monitor Waste Management Plan and reporting compliance associated with C&D projects	P&E, PRO, ADC	Near-Term
		1, 2	Based on the metrics and KPIs identified, evaluate the best tool to use to manage this data; consider third-party vendor software, or upgrade current tracker by improving and streamlining the spreadsheet to more accurately and efficiently maintain waste management data	P&E	Mid-Term
		1, 2	Collaborate with local institutions, regional partners, and aviation industry organizations to develop creative solutions to support identification of the best metrics and tools, and to identify best practices in the aviation industry and beyond to divert waste	P&E	Long-Term

Notes:
Goal 1 – Reduce waste generation
Goal 2 – Achieve zero waste in alignment with City and State goals
Goal 3 – Demonstrate regional and industry leadership in zero waste

Near-Term – Now to 5 years out (2019–2023)
Mid-Term – Over 5–10 years (2024–2028)
Long-Term – 10+ years (2029–2035)

A&T – Airside and Terminal Operations
ADC – Airport Design and Construction
P&E – Planning and Environmental Affairs
PRO – Procurement

Leadership and Influence

Multiple awards, such as the Airports Going Green Conference's recognition of the Authority's Food Recovery Program in 2018, indicate waste reduction efforts are paying off. The Authority realizes this success is due in part to the unique, cross-departmental approach to developing and implementing the program. This culture of shared responsibility and collaboration also carries over to the way in which progressive policies and practices are shared and pursued among both internal and external stakeholders. Realizing that effective leadership is a mutually beneficial arrangement, the five initiatives outlined in this focus area strive to build on this history of successful collaboration by amplifying policies that have a demonstrated track record of success.

Initiatives

- **LI-1: Increase use of the environmentally preferable purchasing to improve waste reduction efforts within the Airport Authority.** Preventative and more impactful solutions are typically found at the level of procurement, where reduction potential is at its highest. Here, thoughtful decisions related to supply chain impact and material content can best be implemented. The Authority will implement a number of mechanisms to enhance the impact of its environmentally preferable purchasing, including meetings that investigate roadblocks to expansion, development of policies in support of recycled-only content and supply chain source reductions (potentially considering carbon emissions), and an evaluation of opportunities to resolve issues associated with items donated for reuse. The mechanisms utilized will be informed by CalRecycle's innovative Environmentally Preferable Purchasing Program and associated guidance. The Authority will also explore formalizing its Sustainable Statement & Resource Guide, seek opportunities to integrate product life cycle analysis, and stipulate thresholds for environmentally preferable purchasing in all new contracts.
- **LI-2: Encourage environmentally preferable purchasing practices with tenants to improve waste reduction efforts.** Similarly, efforts will be made to prioritize environmentally preferable purchasing criteria for tenants including airlines and concessions, while also expanding the successful buy-in-bulk policy to include Airport entities beyond the Authority's direct control. By sharing these resources and implementing incentive-based mechanisms designed to foster widespread adoption, the Authority will be able to build on the success of its internal program, contributing to the Airport's overall waste diversion rate in areas where direct control is limited.
- **LI-3: Review and revise language in contracts to require a stronger focus on waste generation and diversion data.** The Authority's contracts and lease agreements with tenants currently outline a variety of waste management requirements. Moving forward, the Authority aspires to incorporate contract requirements, including greater specificity related to planning and reporting waste management activities. Additional goals that tie directly into sustainable construction and design guidelines will also be included, as will a broad overview of current tenant leases to incorporate steps toward zero waste goals and contract language that stipulates environmentally preferable purchasing thresholds for the Authority, tenants, and partners. While deepening the commitment to waste-related requirements will improve the control and feedback mechanisms in place for waste reduction, it can also potentially increase complexity; for this reason, the Authority will plan for additional monitoring and be prepared to offer supplemental training, if necessary.
- **LI-4: Pursue internal and external partnerships to support the Authority's zero waste goal.** Developing and fostering effective partnerships is at the center of the zero waste strategy. Regional, airport-to-airport, and industry-wide collaborations all offer outlets to engage in knowledge-sharing, discover new opportunities, and allow for verification of internal program practices and outcomes. Additional focus will also be placed on maintaining ongoing strategic partnerships, such as with the City of San Diego. Investing in these ongoing joint efforts, while also seeking new opportunities to engage with additional third-parties to pursue innovation, conduct research, and involve the public via awareness and waste-focused art installations will also be considered.
- **LI-5: Use regulations/certifications to promote zero waste goal.** The Authority strives to align with State and City regulations; as such it is imperative that a thorough review of State and City regulations be completed every year. This will safeguard ongoing initiatives from variance with changes to regulations. Emphasizing innovation and pursuing awards for regional recognition will allow the program to remain at the vanguard of zero waste efforts, and inspire the many individuals upon whose contributions the success of the program will rely. In the long term, the Authority may also exercise the opportunity to seek larger certifications for its waste minimization efforts.

Table 6 summarizes the goals supported, tactics, lead department, and time horizon associated with each of the initiatives.

Table 6: Leadership and Influence Initiatives and Tactics

ID	Initiative	Goals Supported	Tactics	Authority Lead Department	Time Horizon
LI-1	Increase use of the environmentally preferable purchasing to improve waste management efforts within the Airport Authority	1, 2, 3	Conduct recurring meetings on sustainable purchasing with procurement team and analyze or investigate obstacles	P&E, PRO	Near-Term
		1, 2, 3	Review and update the Authority Procurement Department's Sustainable Statement and Resource Guide	P&E, PRO	Near-Term
		1, 2, 3	Investigate the feasibility of working with Procurement to consider and define life cycle/end-of-product life as part of the purchasing decision-making process	P&E, PRO	Near-Term
		1, 2, 3	Continue reviewing sustainable rating systems (e.g., LEED, Envision) criteria for sustainable purchases and tie into procurement procedures	P&E	Mid-Term
		1, 2, 3	Investigate feasibility of purchasing only recycled content/recyclable/reusable items and create a product hierarchy to identify sustainable alternatives	P&E, PRO	Mid-Term
LI-2	Encourage environmentally preferable purchasing practices with tenants to improve waste reduction efforts	1, 2	Add contract language to Operations and Maintenance projects performed by/ under Authority departments to include a requirement for a Waste Management Plan and reporting	PRO	Near-Term
		1, 2	Integrate "zero waste goals" into current document references to create sustainable design and construction guidelines and specifications	P&E, ADC	Near-Term
		1, 2	Incorporate requirement into Authority design-build contracts for third parties to meet minimum green building and infrastructure performance requirements (e.g., LEED or equivalent per Authority Policies, Section 8.31, Sustainability) for sustainable materials management and waste reduction	P&E, ADC	Near-Term
LI-3	Review and revise language in contracts to require a stronger focus on waste generation and diversion data	1, 2	Review tenant, concessions, and preferred vendor leases and/or contracts to incorporate zero waste goals; stipulate thresholds for environmentally preferable purchasing in contracts	P&E, RGP	Near-Term
		1, 2, 3	Expand buy-in-bulk policy (e.g., reference the janitorial Green Cleaning policy) initially targeting chemicals, products in single-use bottles, concentrates, dispenser products, and products in refillable/reusable containers	P&E, A&T	Mid-Term

ID	Initiative	Goals Supported	Tactics	Authority Lead Department	Time Horizon
LI-4	Pursue internal and external partnerships to support the Authority's zero waste goal	1, 2, 3	Keep communicating waste diversion/zero waste achievements to Aviation/Regional leadership	P&E	Near-Term
		1, 2, 3	Continue sharing lessons learned related to sustainable procurement policy, contracts, lease language, and other methods of upstream waste prevention with and from other airports	P&E	Near-Term
		1, 2, 3	Use employee crowd sourcing to advance innovation in waste management and reward good ideas	P&E	Near-Term
		1, 2, 3	Leverage the SAN Innovation Lab to address waste-related issues and identify innovative solutions	P&E, CEI	Near-Term
		1, 2, 3	Continue strategic partnership with City of San Diego	P&E, A&T	Near-Term
		1, 2, 3	Continue conducting site visits with contract vendors to identify new opportunities/other services provided and observe proof of sustainable stewardship	P&E	Mid-Term
		1, 2, 3	Consider pursuing opportunities for updating the Sustainability Policy/ Memorandum of Understanding (MOU) and include waste-related content	P&E, CEI	Mid-Term
		1, 2, 3	Participate in regional forum on waste (e.g., Waste Reduction and Recycling Awards Program [WRRAP] recipients)	P&E	Mid-Term
		1, 2, 3	Leverage Authority art program by identifying opportunities to connect artists with waste (e.g., create exhibits made with waste)	P&E, CEI	Mid-Term
		1, 2, 3	Participate in a waste management task force with key stakeholders (e.g., TSA, airlines, concessionaires, tenants)	P&E	Long-Term
		1, 2, 3	Partner with third parties to develop solutions and conduct research (e.g., innovation labs, pilot new initiatives, share ideas/collaborate)	P&E	Long-Term

ID	Initiative	Goals Supported	Tactics	Authority Lead Department	Time Horizon
LI-5	Use regulations/ certifications to promote zero waste goal	2, 3	Review State regulations and City of San Diego ordinances on an annual basis and incorporate into Zero Waste Plan as needed to reflect new requirements for sustainability and waste management	P&E, A&T	Near-Term
		2, 3	Seek/obtain recognition from the City of San Diego for waste diversion achievements	P&E, A&T	Near-Term
		2, 3	Review the Authority's Rules and Regulations on an annual basis and update as needed to reflect sustainability and waste management	P&E	Near-Term
		2, 3	Track and possibly support legislation that supports the Authority's zero waste goals	P&E	Mid-Term
		2, 3	Explore the pursuit of a zero waste certification at the Airport	P&E	Long-Term

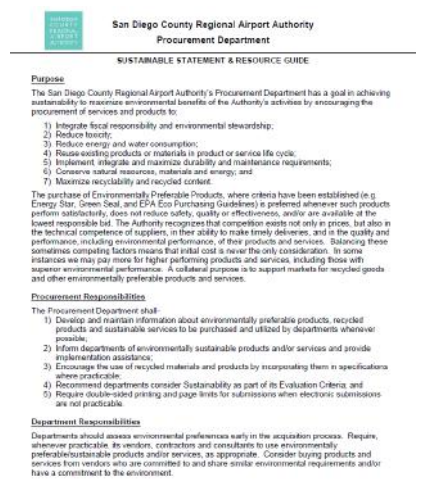
Notes:
Goal 1 – Reduce waste generation
Goal 2 – Achieve zero waste in alignment with City and State goals
Goal 3 – Demonstrate regional and industry leadership in zero waste

Near-Term – Now to 5 years out (2019–2023)
Mid-Term – Over 5–10 years (2024–2028)
Long-Term – 10+ years (2029–2035)

A&T – Airside and Terminal Operations
ADC – Airport Design and Construction
CEI – Customer Experience and Innovation
P&E – Planning and Environmental Affairs
PRO – Procurement
RGP – Revenue Generation & Partnership Development

Spotlight: Sustainable Statement and Resource Guide

The Authority's Procurement Department strives to purchase only products that maximize recyclability and recycled content, reduce toxicity, and conserve natural resources, raw materials, and energy. By doing this, Procurement is aiming for streamlined efficiency as well as environmental stewardship. This is accomplished by adhering to their "Sustainable Statement & Resource Guide," which requires the consideration of every product's potential impacts on human and environmental health. The environmentally preferable purchasing process requires careful consideration that a product's lasting potential on the environment and human health, cost, quality, and performance. Each product has a differing selection process, but it always includes a full life cycle comparison which measures raw material acquisition, production, manufacturing, packaging, distribution, potential for reuse, operation, maintenance, and finally the disposal of the product. Identifying each aspect of the process encourages a complete assessment of the sustainability of a product.



San Diego County Regional Airport Authority
Procurement Department

SUSTAINABLE STATEMENT & RESOURCE GUIDE

Purpose

The San Diego County Regional Airport Authority's Procurement Department has a goal in achieving sustainability to maximize environmental benefits of the Authority's activities by encouraging the procurement of services and products to:

1) Integrate fiscal responsibility and environmental stewardship;
2) Reduce toxicity;
3) Reduce energy and water consumption;
4) Reuse existing products or materials in product or service life cycle;
5) Implement, integrate and maximize durability and maintenance requirements;
6) Conserve natural resources, materials and energy; and
7) Maximize recyclability and recycled content.

The purchase of Environmentally Preferable Products, where criteria have been established (e.g. Energy Star, Green Seal, and EPA Eco Purchasing Guidelines) is preferred whenever such products perform satisfactorily, does not reduce safety, quality or effectiveness, and/or are available at the lowest responsible bid. The Authority recognizes that competition exists not only in prices, but also in the technical competence of suppliers, in their ability to make timely deliveries, and in the quality and performance, including environmental performance, of their products and services. Balancing these sometimes competing factors means that initial cost is never the only consideration. In some instances we may pay more for higher performing products and services, including those with superior environmental performance. A collateral purpose is to support markets for recycled goods and other environmentally preferable products and services.

Procurement Responsibilities

The Procurement Department shall:

1) Develop and maintain information about environmentally preferable products, recycled products and sustainable services to be purchased and utilized by departments whenever possible;
2) Inform departments of environmentally sustainable products and/or services and provide implementation assistance;
3) Encourage the use of recycled materials and products by incorporating them in specifications where practicable;
4) Recommend departments consider Sustainability as part of its Evaluation Criteria; and
5) Require double-sided printing and page limits for submissions when electronic submissions are not practicable.

Department Responsibilities

Departments should assess environmental preferences early in the acquisition process. Require, whenever practicable, its vendors, contractors and consultants to use environmentally preferable/sustainable products and/or services, as appropriate. Consider buying products and services from vendors who are committed to and share similar environmental requirements and/or have a commitment to the environment.


Ground Transportation
Passenger Pick-Up
Connecting Flights
Inter-Terminal Shuttle


3130
REPUBLIC
SERVICES
SAN DIEGO, CA
RECYCLING ONLY

04

Funding Sources and Strategy

The Authority has established a process for identifying and positioning for potential funding opportunities for zero waste to landfill initiatives.

Aspiring to the goal of zero waste is, by its very nature, an ambitious proposition. Realizing the possibility that meeting this challenge may require additional resources, the Authority has identified a number of funding sources that will assist in leveraging resources toward the successful implementation of the initiatives outlined in this ZWP. It should be noted that airports do not receive revenue from local taxes, but rather are financially self-sufficient enterprises relying on user fees. In addition, there are federal restrictions for using this revenue for non-airport purposes.

Beyond utilizing the traditional operating budget for capital improvement projects detailed in the CIP and ADP, the Authority has created a list of potential capitalization opportunities (see Table 7) to augment funding for infrastructure and/or ongoing initiatives that support innovation in waste reduction.

The funding mechanisms identified comprise both aviation industry-specific instruments and those that are available for waste minimization efforts in general. Originating at the federal, local, and state government level, and from private and/or public foundations, there are many strong programs from which to choose. Below is a summary of the preferred options.

Table 7: Potential Funding Sources for Zero Waste and Waste Reduction-related Initiatives

Funding Program	Program Summary	Potential Areas for Application
FAA's Airport Improvement Program (AIP)	As summarized on the FAA website: The Airport Improvement Program (AIP) provides grants to public agencies — and, in some cases, to private owners and entities — for the planning and development of public-use airports that are included in the National Plan of Integrated Airport Systems (NPIAS). Eligible projects include those improvements related to enhancing airport safety, capacity, security, and environmental concerns.	The Authority has successfully utilized AIP grants for a variety of projects in the past. Moving forward, funds may be applied toward developing an environmental management system in support of waste data/ tracking and for conducting waste audits.
California GHG Reduction Fund: California Climate Investments[17]		
CalRecycle's Food Waste Prevention and Rescue Grant Program	As part of the statewide California Climate Investments program, this competitive grant program is designed to lower overall GHG emissions by establishing new or expanding existing food waste prevention projects (source reduction or food rescue for people) in California to reduce the amount of food being disposed in landfills.	The Authority can leverage this annual resource to improve upstream efforts to reduce waste and enhance food donation program operations and/or improve outreach and training efforts. Focus Areas: Leadership & Influence, Training & Education
CalRecycle's Organics Grant Program	The purpose of this competitive grant program is to lower overall GHG emissions by expanding existing capacity or establishing new facilities in California to reduce the amount of California-generated green materials, food materials, and/ or Alternative Daily Cover being sent to landfills.	Grants could be used to improve the reach and/or functionality of the Authority's food waste reduction program by improving infrastructure to support organic waste collection in public areas. Focus Area: Infrastructure & Development

Funding Program	Program Summary	Potential Areas for Application
CalRecycle's Recycled Fiber, Plastic, and Glass Grant Program	This competitive grant program serves to lower overall GHG emissions by expanding existing capacity or establishing new facilities in California that use California-generated post-consumer recycled fiber (old corrugated cardboard, paper board, or textiles), plastic, or glass to manufacture products.	Focus Area: Infrastructure and Development, namely for the optimization of cardboard collection via purchase of new balers and containers
CalRecycle's Pilot Reuse Grant Program (Fiscal Year 2019-20)	The Pilot Reuse Grant Program focuses on activities that result in extending the useful life of existing products and reduce landfill disposal and/or efforts that replace single-use products.	Focus Areas: Training & Education, Infrastructure and Development, specifically for the creation of a reusable dishware operation in Authority facilities, meeting areas, and/or food courts within the Terminals
CalRecycle's Greenhouse Gas (GHG) Reduction Loan Program	Offers funds to support new or expanded organics infrastructure, such as composting and anaerobic digestion facilities, as well as for facilities that manufacture fiber, plastic, or glass waste materials into beneficial products.	Focus Area: Infrastructure and Development, primarily related to improving infrastructure that supports organic waste collection
EPA's Pollution Prevention (P2) Grant Program	The program funds two-year Pollution Prevention (P2) assistance agreements for projects expected to be performed in each EPA region that provides technical assistance and/or training to businesses/facilities to help them adopt source reduction approaches. Up to $500,000 is available over a two-year funding period.[18]	Focus Areas: Training & Education, Sustainable Materials Management Airport collaboration with local government or university
EPA's Pollution Prevention (P2) Source Reduction Assistance Program	P2 assistance offers practical P2 tools or approaches to measurably improve the environmental footprints of state agencies, federally-recognized tribes, intertribal consortia, businesses, municipal/local governments, and/or local communities while also supporting efficiency to reduce resource use, expenditures, waste, and liability costs. Up to $260,000 is available over a two-year funding period.[19]	Focus Areas: Training & Education, Sustainable Materials Management The Airport in collaboration with local agencies


Stone Brewing Co.
Budweiser
M★
M★
CONSTELLATION
STONE BREWING CO.

05

Implementation and Monitoring Program

The Authority has developed a monitoring program to track progress of the zero waste strategy and facilitate data collection, sharing, evaluation, and reporting from and among Airport stakeholders.

The ZWP is, by design, both a strategic framework and a tactical guide for implementation. The Authority recognizes that the finalized results represent the best path forward for the Airport to synchronize with State and City targets, realize improved source reduction, and demonstrate a commitment to leadership both locally and around the globe. It is also understood that the ZWP is a living document and thus carries with it the requirement for update and redesign as internal or external factors dictate that changes be made. Given broader industry changes, such as shifting international markets for waste and recycling materials, and legislation toward extended producer responsibility for goods[20], the Authority will remain vigilant in assuring that the ZWP continues to remain up-to-date and outlines the most efficient approaches possible.

In the past, the Authority relied on several mechanisms to monitor progress and encourage improvement. These included ongoing meetings with the waste hauler and janitorial contractor, and consistent interaction with employees and tenants. Instruction and reinforcement of expectations via social media, monthly newsletters, email, container labels, and signage also insured consistent programmatic improvement.

Beyond the aforementioned strategies, a commitment to zero waste will require additional efforts to foster more impactful feedback and oversight. Table 8 summarizes the established goals and targets that have been previously discussed, with the additional accompanying monitoring techniques that will be used.

Table 8: Authority Goals and Targets Monitoring

Goal	Metric(s)	Target(s)	Target Timeframe	Monitoring
1. **Reduce waste generation**	Reduce the amount of material discarded per employee and passenger	5% reduction in total discarded material	2025	Keep ongoing records of all waste generation data where feasible; evaluate data periodically against best practices in waste reduction
		10% reduction in total discarded material	2035	
2. **Increase waste diverted from landfill**	Meet or exceed the City and State waste diversion targets and timeframes	Achieve 90% Diversion Rate[21]	2035	Maintain comprehensive database/dashboard of material streams; evaluate internally and commit to periodic third-party verification of data and processes
3. **Demonstrate regional and industry leadership in zero waste**	Engage Authority, aviation industry, and regional stakeholders to share best practices and amplify impact of sustainable materials management and waste reduction programs	Promote and participate annually in four working groups coordinated by the Authority or stakeholders	2025	Keep records of workshop attendance and outcomes; evaluate periodically against KPIs in region and industry
	Provide regional and industry leadership and zero waste solutions	Achieve TRUE[22] zero waste or equivalent third-party certification	2035	Demonstrate achievement of one or more third-party certifications; share innovations with other organizations

Source: Developed as part of Authority inter-department outreach, Fall 2018.

By adopting the supplemental monitoring measures listed above and building on the strong foundation of oversight and collaboration already in place, the Authority will complete a robust and highly effective system of monitoring and feedback delivery. This framework will continue to support the efforts laid forth in this ZWP, serving to guide successful implementation by promoting a step-by-step process and sensible accountability measures. Additionally, progress towards the achievement of goals and implementation of waste reduction initiatives is communicated in the Authority's annual Sustainability Report. This report, available online at sustain.san.org, is developed in accordance to Global Reporting Initiative (GRI) standards and provides updated information for several of the Authority's sustainability focus areas, including waste management.

List of Acronyms

AAAE	American Association of Airport Executives
AB	Assembly Bill
ACA	Airport Carbon Accreditation Program
ACI	Airport Council International
ACRP	Airport Cooperative Research Program
ADC	Airport Design and Construction
ADP	Airport Development Plan
AIP	Airport Improvement Program
Airport	San Diego International Airport
AOA	Airport Operations Area
ASP	Aviation Security and Public Safety
ARFF	Aircraft Rescue and Firefighting
ASF	Airport Support Facilities
ASOS	Automated Surface Observation System
A&T	Airside and Terminal Operations
Authority	San Diego County Regional Airport Authority
BMP	Best Management Practice
C&D	Construction and Demolition
CAC	California Airports Council
Caltrans	California Department of Transportation
CIP	Capital Improvement Program (or Plan)
CO_2	Carbon Dioxide
CoSMoS	Coastal Storm Modeling System
CRP	Climate Resilience Plan
CUPPS	Common Use Passenger Processing
EPA	U.S. Environmental Protection Agency
°F	Fahrenheit
FAA	Federal Aviation Administration
FBO	Fixed-Base Operator
FEMA	Federal Emergency Management Agency

GCM	General Circulation Model
GHG	Greenhouse Gas
ICAO	International Civil Aviation Organization
KPI	Key Performance Indicator
MSW	Municipal Solid Waste
NPIAS	National Plan of Integrated Airport Systems
OPC	Ocean Protection Council
P&E	Planning and Environmental Affairs
PV	Photovoltaic
RCC	Rental Car Center
RCP	Representative Concentration Pathway
SAN	San Diego International Airport
SLR	Sea Level Rise
SMP	Sustainability Management Plan
TCC	Talent, Culture, and Capability
TIFIA	Transportation Infrastructure - Finance and Innovation Act
TRB	Transportation Research Board
USACE	United States Army Corps of Engineers
USDOT	United States Department of Transportation
USGBC	United States Green Building Council
WRRAP	Waste Reduction and Recycling Awards Program
ZWP	Zero Waste Plan

Acknowledgments / Contributions

The Authority would like to thank the following Departments for helping develop this document:

Airport Departments

Accounting

Airport Design & Construction (ADC)

Airside & Terminal Operations (A&T)

Communications

Customer Experience & Innovation (CEI)

Facilities Management (FMD)

Marketing & Air Service Development (MAS)

Planning & Environmental Affairs (P&E)

Procurement (PRO)

Revenue Generation & Partnership Development (RGP)

Endnotes

1 https://www.epa.gov/lmop/basic-information-about-landfill-gas

2 http://zwia.org/zero-waste-business-principles/

3 https://true.gbci.org/

4 Green Business Certification, Inc. (GBCI) defines Zero Waste according to the Zero Waste International Alliance (zwia.org) definition.

5 In 2018, the Authority revised the recycling categories by removing universal waste and adding food donations.

6 https://www.epa.gov/smm/sustainable-materials-management-basics

7 http://zwia.org/zero-waste-business-principles/

8 https://true.gbci.org/

9 In accordance with LEED credit MRc1 for all projects.

10 50+% of available points from "Building Product Disclosure and Optimization" LEED credits (e.g., MRc2, MRc3, MRc4)

11 https://www.epa.gov/smm/sustainable-materials-management-basics

12 https://www.epa.gov/smm

13 https://news.nationalgeographic.com/2017/07/plastic-produced-recycling-waste-ocean-trash-debris-environment/

14 This EPA program reduces food waste through setting a baseline, measuring food loss and waste reductions, and reporting progress on the Authority's website. https://www.epa.gov/sustainable-management-food/united-states-food-loss-and-waste-2030-champions

15 https://www.epa.gov/sustainable-management-food/sustainable-management-food-basics#what

16 National Academies of Sciences, Engineering, and Medicine 2018. Airport Waste Management and Recycling Practices. Washington, DC: The National Academies Press. https://doi.org/10.17226/25254

17 CalRecycle's Food Waste Prevention and Rescue Grant Program
CalRecycle's Organics Grant Program
CalRecycle's Recycled Fiber, Plastic, Glass Grant Program
CalRecycle's Pilot Reuse Grant Program
CalRecycle's Greenhouse Gas Reduction Loan Program

18 https://www.epa.gov/p2/grant-programs-pollution-prevention#p2grant

19 https://www.epa.gov/p2/grant-programs-pollution-prevention#sra

20 https://resource-recycling.com/recycling/2019/02/19/packaging-stewardship-bills-hit-states/

21 http://zwia.org/zero-waste-business-principles/

22 https://true.gbci.org/


TRADE WASTE
ONLY
RECYCLABLES
ONLY
FLAGSHIP

Appendices

APPENDIX A: Baseline Assessment Memorandum

Project Memorandum

Date	11/5/2018, updated 05/24/2019; revised 7/1/2019
From	Doreen Peters, AECOM Craig Riley, AECOM
To	Chad Reese, San Diego International Airport
Project Name	Sustainability Management Plan
Regarding	Zero Waste Plan Baseline Assessment

Introduction

The San Diego County Regional Airport Authority (Authority) is developing a Sustainability Management Plan (SMP) for San Diego International Airport (SAN, or Airport), with 2018 as the baseline year. The Zero Waste Plan (ZWP), the object of this memo, addresses the goal to eliminate waste generated by the Authority, non-authority operators, and passengers by applying the rethink-reduce-reuse-recycle-rot (compost) hierarchy of management methods. The focus areas and topics included in the ZWP, and consequently in this baseline assessment, include the following:

- Sustainable Materials Management;
- Infrastructure and Development;
- Training and Education;
- Metrics and Reporting; and
- Leadership and Influence.

This memo summarizes findings regarding baseline conditions for waste generated at the airport. Working with the Authority's waste hauler, waste characterization studies have been conducted in the past four years (2015, 2016, 2017, and 2018) to provide the Authority with information on the components of the solid waste stream and to identify opportunities for further waste elimination or minimization. This work serves as a key source of information for the development of the ZWP in addition to other documents and sources of information such as the Waste Reduction and Recycling Awards Program (WRRAP) Applications. The Authority has submitted WRRAP applications for over 10 years to the City of San Diego Environmental Services Department. Since each application builds on the previously submitted one, the last four years applications (2016, 2017, 2018, and 2019) were reviewed as part of the ZWP data collection effort. The City has adopted 2010 as a baseline year for measuring progress toward achieving 90% waste diversion (considered zero waste to landfill and incinerators by the current definition maintained by the Zero Waste International Alliance). In some cases, the information provided in this memo and the ZWP is more quantitative while in other cases it is more descriptive and qualitative depending on the available data.

Context

Development of the ZWP is driven by the Authority's motivation to serve as a leader in airport sustainable materials management while optimizing airport operations, to align with the City of San Diego's zero waste goals, and to evolve zero waste efforts as new technology and best practices are identified. The U.S. Environmental Protection Agency (U.S. EPA) defines sustainable materials management as a systemic approach to using and reusing materials more productively over their entire life cycles. CalRecycle defines it as a process and a philosophy that involves redesigning products and consumption, so that all material goods can be reused or recycled - or not needed at all. The Authority has a strong focus on identifying opportunities to achieve zero waste and takes into consideration local and regional catalysts for improving its waste management program. Aviation industry and California drivers provide context

for the ZWP baseline assessment, as well as reduction target setting and tracking. The following is a summary of these key drivers.

City of San Diego Recycling Ordinance O-2008-30 (2007) – requires commercial facilities which receive solid waste collection services from a solid waste/recyclable material vendor (i.e., Franchisee waste hauler) to provide on-site recycling services and education and for occupants of commercial facilities to participate in a recycling program by separating recyclable materials from other solid waste and depositing the recyclable materials in the recycling containers provided. The ordinance also mandates that solid waste/recycling vendors submit an annual report to the City that includes the volume of solid waste and recyclable materials collected per week from the facility and the frequency of solid waste and recyclable materials collection service provided to the facility.

CA AB 341, Mandatory Commercial Recycling (2011) – AB 341 aims to reduce greenhouse gas (GHG) emissions by diverting commercial solid waste to recycling efforts and to expand the opportunity for additional recycling services and recycling manufacturing facilities in California. AB 341 addresses recycling requirements for businesses that generate 4 or more cubic yards of commercial solid waste per week. AB 341 does not mandate a diversion goal for businesses - it only requires that businesses implement a commercial recycling program. In addition to Mandatory Commercial Recycling, AB 341 sets a statewide goal for 75 percent disposal reduction by the year 2020. This is not a 75 percent diversion mandate for each jurisdiction. A 50 percent disposal reduction mandate still stands for cities, counties, and State agencies under AB 939 and AB 75, respectively.

City of San Diego Climate Action Plan (2015) – sets a 75% waste diversion target by 2020 and a 90% (i.e., zero waste) goal by 2035. SAN's location within the City of San Diego allows the Airport's waste reduction efforts to support the City's efforts to achieve its waste diversion goals.

City of San Diego Zero Waste Plan (2015) - targets 75% diversion by 2020, 90% diversion by 2035, and "zero" by 2040 via ongoing education and policies that encourage manufacturers, consumers, and waste producers to be more responsible for waste. Investigation of new technologies and ongoing market development at the local and state level will also be prioritized.

Authority Commitments

The Authority is committed to actively managing waste as part of its operational requirements and social license. These commitments include:

- Airport Operations:
  - Counterbalance passenger and terminal growth with waste reduction
  - Manage and reduce tenant waste generation
  - Manage and reduce Authority waste generation
- Achieving zero waste to landfill status:
  - Increase source reduction and waste diversion
  - Align zero waste actions with City of San Diego zero waste goals
- Leadership:
  - Advance social responsibility
  - Be recognized as an industry leader
  - Develop and communicate best practices

2018 Waste and Recycling Characterization Results

To determine the Authority's waste stream components, waste and recycling characterizations were conducted at Otay Landfill and EDCO's Materials Recovery Facility – the two main facilities that the Authority sends its waste to. The characterization supports better understanding and identification of opportunities to divert waste streams from landfills and to determine further source reduction opportunities. The analysis of the materials yielded the following results:

- The combined weight of all five landfill compactors that were sorted and characterized totaled 1,084.5 lbs.
- Of the total material analyzed, 67.48% was municipal solid waste (MSW) primarily consisting of bathroom and restaurant waste, soiled napkins, toilet paper, and post-consumer food waste, and blankets.
- Diversion opportunity: Landfill material was analyzed to identify how much recyclable material is ending up in the landfill containers. An average of 31.25% of the total waste sorted was recyclable materials improperly disposed in MSW compactors vs. 27.50% in 2017 and 32.52% in 2016 (missed diversion opportunity shown in Figure A-1).
- Contamination Rate: Commingled recycling material was analyzed to identify a contamination rate. The recyclables sorting sample showed an average 11.74% contamination level (i.e., improperly disposed waste in recycling compactors). This is a substantial decrease from 34.61% identified in the 2017 characterization and from down from the 14.24% in 2016 as shown in Figure A-2. There was also overall less liquid in the recycling due to the new drains on the compactors that discharge liquid, typically from non-empty beverage bottles, to the sewer.

Figure A-1: Percentage of Recyclables in MSW Compactors

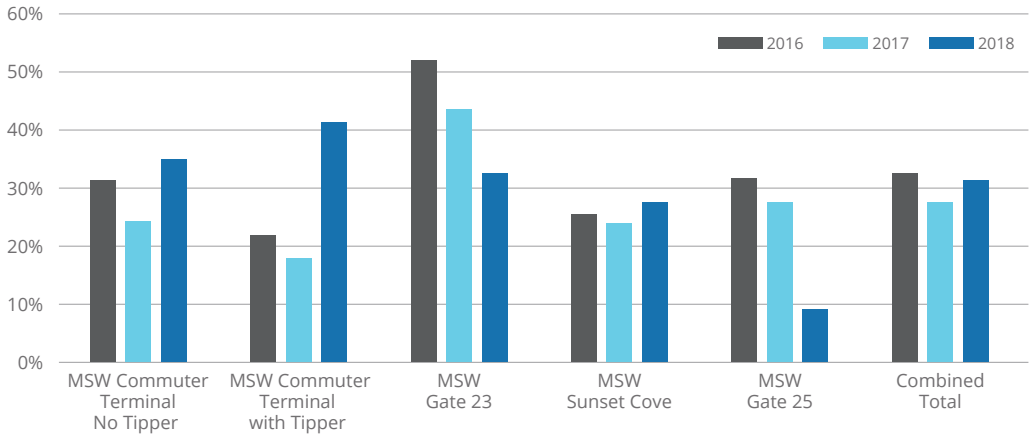
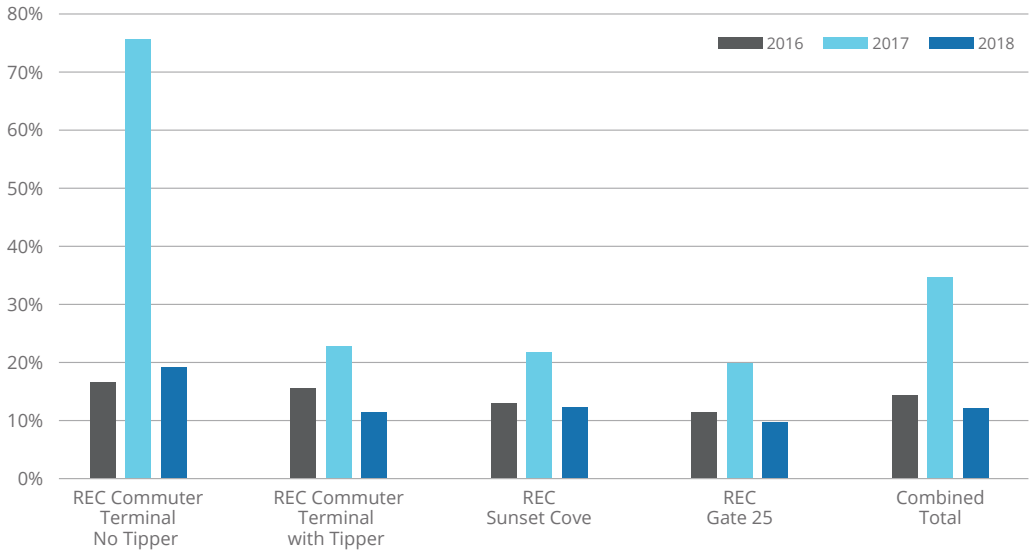


Figure A-2: Percentage of Contamination in Recycling Compactors



The Authority's waste hauler made the following recommendations for improving the Airport's Waste Management Program:

- Education/re-education of airport staff and vendors on what is recyclable and what is waste.
- Removing the MSW compactor at gate 23 because it was not paired with a recycling compactor and increasing service at gate 25 compactors.
- Reviewing current airport and airline janitorial staff collection processes to better identify recyclables and placing them in the correct containers.
- Reviewing the collection process of waste streams not managed by airport janitorial staff.
- Adding a cardboard only compactor.

Waste Diversion - SAN Numbers

Based on 2018 data taken from the waste hauler's annual report and other data sources, SAN currently has a waste diversion rate of 23% when not taking into consideration construction and demolition (C&D) waste (See Figure A-5). The percentages of recyclable material types contributing to the diversion rate are shown in Figure A-3. When considering C&D, the Authority's diversion rate is 82%.

The bar chart in Figure A-4 shows the quantity of waste generated from the baseline year (2010) to 2018 compared to historical passenger enplanements. An increase in enplanements is expected to increase the quantity of waste generated.

Figure A-3: Percentages of Recyclable Material Types Diverted in 2018 (by total weight)

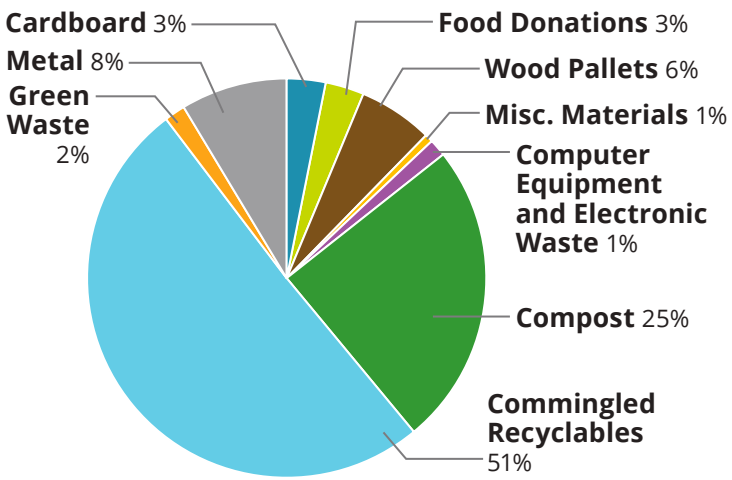
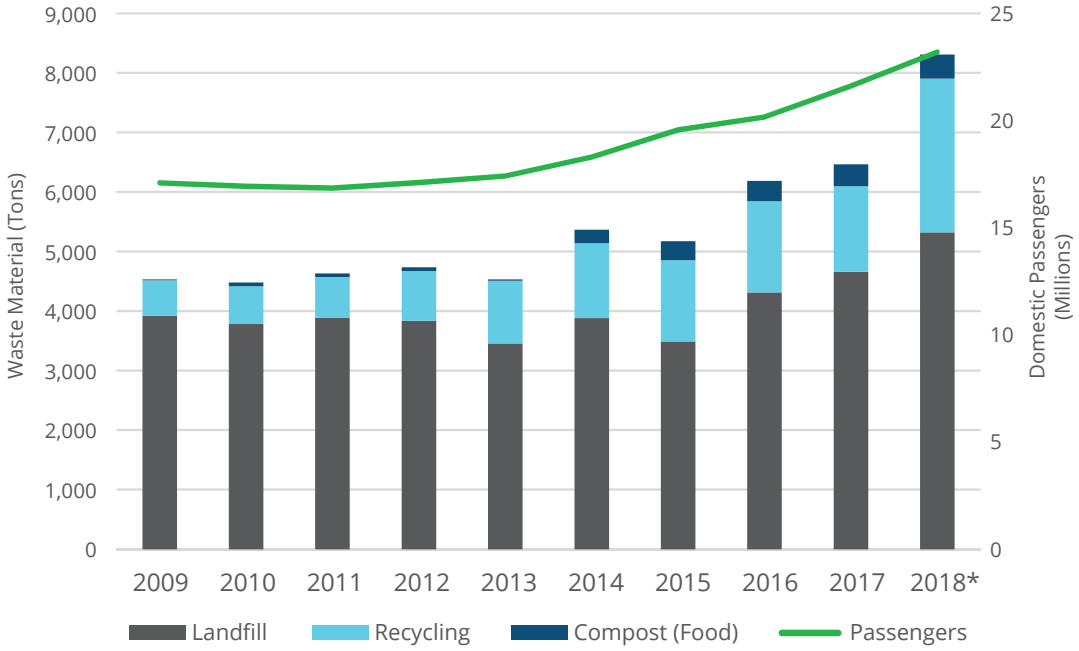


Figure A-4: Historical Passenger Enplanement & Waste Generation Rates at San Diego International Airport



* In 2018, the Authority revised the recycling categories by removing universal waste and adding food donations.

Materials Management Initiatives Implemented through 2018

In moving toward a zero waste goal, the Authority has implemented a variety of programs. Achievements to date are summarized in the following sections in alphabetical order and in the Waste Inventory spreadsheet included in Attachment A.

Sustainable Materials Management

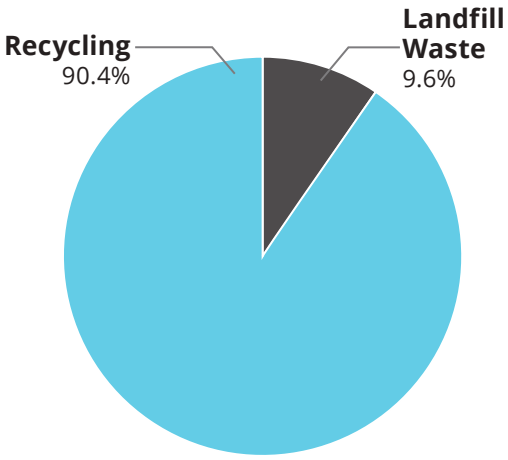
- **Badges**
  In May 2017, there was an Airport-wide badge renewal that required all current and expired Airport badges to be turned in for deactivation in order for new badges to be reissued. Over 7,000 badges were turned in for shredding and were then recycled.

- **Commingled Recycling**
  Many recyclable materials are collected using a single stream recycling program that accepts Styrofoam, cartons, paper products, cardboard, empty rigid plastics, empty metals, cans, and aluminum foils and empty glass bottles and jars. In addition, coffee/tea paper cups, paper sleeves, and plastic lids may also be placed in the commingled recycling containers. Recycling containers accepting all commingled recyclables are located throughout the public and employee spaces.

- **Construction and Demolition (C&D) Waste**
  The vast majority of waste produced from the Airport's C&D projects in 2018 were directed to recycling facilities in the region, and diverted from local landfills. As a part of the Authority's Sustainability Policy, all new facilities on airport grounds must be certified LEED Silver or better, which requires at least a 90% recycling rate of C&D waste. There were three large construction projects on Airport property in 2018: a new Federal Inspection Station (FIS), Terminal 2 Parking Plaza (T2PP), and Clear Object-Free Area (OFA) Taxiway B. The inert waste comprised of asphalt, concrete, and dirt; the remaining waste included landscape debris, metals, and assorted non-recyclable material (landfill waste). These projects in addition to other small construction projects generated 50,594 tons of material and over 90% was diverted from the landfill.

  In the next few years, the Authority will be building out new facilities as part of the Airport Development Plan (ADP) that represents the final build-out of new airport structures in the next 20 years. In the future SAN expects to continue recycling C&D waste and is depending on an inter-departmental effort to maximize reuse and recycling.

Figure A-5: C&D Waste Diverted in 2018
(by total weight)



- **Environmentally Preferable Products**
  The Authority's Procurement Department has opportunities to purchase products that maximize recyclability and recycled content, reduce toxicity, and conserve natural resources, raw materials, and energy. By doing this, Procurement is aiming for streamlined efficiency as well as environmental stewardship. They do this by adhering to their "Sustainable Statement & Resource Guide," which requires the consideration of every product's potential impacts on human and environmental health. The environmentally preferable purchasing process requires careful consideration that takes into account the product's lasting potential on the environment, human health, cost, quality, and performance. Each product has a differing selection process, but it always includes a full life-cycle comparison, measuring raw material acquisition, production, manufacturing, packaging, distribution, potential for reuse, operation, maintenance, and finally the disposal of the product. Identifying each aspect of the process encourages a complete assessment of the recycling capabilities of a product.

This program and the mindset that comes along with it have resulted in the purchasing of sustainable kitchen supplies, office supply delivery to one location to decrease trips and packaging waste, reuse of packaging materials, default double-sided printing, and the creation of an inter-departmental log of office items and furniture to maximize reuse. Some highlights include:

- Use 30% recycled content paper Authority-wide (3,430 reams in 2018, which is a 9% decrease in overall paper use from 2017).
- Collect and recycle toner cartridges (276 in 2018).
- Reuse packaging material (e.g., boxes, packing peanuts, bubble wrap) from previous deliveries.
- Use biodegradable ink where possible for print jobs
- Provide employees with online tools to utilize and share documents and files to reduce paper and printer usage.
- Use a file-saving and sharing system, Enterprise Content Management System (ECMS), which stores records and information in a centralized location for more effective sharing and collaboration within and across departments.
- Decrease unnecessary or accidental color ink usage by setting all printers to a default of black and white and double-sided printing.
- Use mats on the floors throughout the Airport (to minimize tracking dirt) are made with recycled rubber.
- Purchase cleaning and maintenance supplies made with recycled and/or environmentally preferable materials, where possible.
- Purchase reusable kitchen products including napkins, cups, knives, spoons, forks, plates, and bowls for some breakrooms.

- **Food Waste Collection**
  The Authority continues to implement the food waste collection program that began in 2011. Authority staff and every food and beverage concessionaire at the Airport participate. Food waste is collected with the help of the janitorial service. In 2018, 409 tons of food waste were collected and taken to the City of San Diego Miramar Greenery to be composted. The Authority is committed to growing and maintaining this program due to the high volume of food waste that can be diverted from local landfills and instead utilized in a way that gives back to the environment.

- **Food Recovery and Donation**
  Another method used to reduce the organics stream, is collecting food that is still good to eat and donating it to feed the community. The total amount of edible food recovered and donated in 2018 was 102,035 pounds, an 89% increase from 2017. This large increase is a result of the growth of the food donation program and more concessions donating edible food instead of composting or sending to landfill. Based on the U.S. Department of Agriculture's estimate that the average meal weighs 1.2 pounds, Airport food and beverage concessionaires have donated over 85,000 meals to the USO and the San Diego Rescue Mission.

- **Grease Collection Program**
  The Authority captures and recycles grease and waste vegetable oil from cooking operations in the Airport with the help of the Airport's Receiving and Distribution Center. Grill by-products, such as grill scrapings and chicken and bacon fat are also processed to produce fertilizer and animal feed, and a small portion of the waste vegetable oil becomes sheet metal stamping oil. This program is a great example of how the Authority has been able to efficiently collaborate with an Airport operator to find useful means for what would otherwise be waste, and utilize this waste in ways that reduce emissions due to alternative fuel usage. In 2018, the Authority was able to collect and recycle 19,978 gallons of grease and 3,188 gallons of by-product from airport services.

- **Green Waste Reduction & Xeriscape Program**
  It is estimated that 70% of airport property uses xeriscape landscaping. The Authority maintains the airport's 12.5 acres of landscaping with a combination of drought-tolerant California-native grasses, shrubs, trees, and palms. These plants produce less green waste and require less irrigation, fertilizers, herbicides, and pesticides than traditional or exotic landscaping. With the help of the Authority's contractor, green waste is collected from landscaping and maintenance activities to divert as much as possible from the landfill. In 2018, 28 tons of green waste were turned into mulch and compost. Some green waste (primarily palm fronds) is currently unable to be turned into mulch or compost at this time because of fibrous composition and abundant seeds. The Authority has also incorporated seven pet relief areas with artificial turf instead of real grass producing zero green waste.

- **Hazardous Material Reduction**
  Approximately 75% of all cleaning supplies and products used by the Airport's janitorial services provider are green or LEED certified. The provider complies with Green Cleaning and LEED Certification processes in selecting equipment and products as opposed to traditional janitorial supplies and services, which can have a negative effect on human and environmental health. By utilizing the greenest products available, the Authority is able to avoid the use of volatile organic compounds and other harmful toxins in the cleaning process to maintain indoor air quality expected of the Airport by the community. Janitorial employees have been trained and successfully certified for the Cleaning Industry Training Standard (CITS). The training focuses on green cleaning and products, along with the appropriate cleaning methods of all objects to ensure sanitation and uphold air quality. When possible, janitorial staff uses reusable cloths for things like cleaning surfaces and windows, and also reusable spray bottles.

- **Lost and Found Items**
  Many items are left throughout the airport each year and are turned in to the Lost and Found office. Unfortunately, many of those items are not claimed and need to be disposed of after a certain holding period. In 2018, 23,721 items were turned into lost and found. A total of 15,045 items (a 63% diversion rate) were either returned to the owner, sent to auction for reuse, or donated to the Harbor Police Department's K9 training program.

- **Office Paper Shredding**
  The Authority provides copier rooms with office paper recycling and shredding containers. This placement of bins makes the proper disposal of documents easily accessible to all employees. An on-site service provider shreds and recycles the content of the bins. The Authority actively encourages employees to perform tasks electronically, but due to various security mandates, understands that it is not always feasible and instead has placed convenient recycling bins to ensure that people can participate in recycling paper. The Procurement Department facilitates the office paper shredding program of confidential documents. The documents are shredded and then taken offsite to be recycled by a third-party vendor. In 2018, 18,717 pounds of shredded paper were recycled.

- **Paper Towels in Restrooms**
  Following advice from the janitorial contractor, the Authority reduced paper towel sizes in all airport restrooms, resulting in less paper towel waste. Automatic hand dryers are also available in all restrooms to encourage less paper towel usage.

- **Paint**
  The Authority recycled 696 gallons of latex and oil-based paints through Amazon Environmental Inc. and PaintCare Inc.

- **Reusable Concessions Items**
  Reusable items such as plastic totes, pallets, and kegs are used to deliver materials to the concessions. These items are returned to the vendors that own them, including damaged or broken totes and pallets, resulting in fewer waste streams for the Authority to manage.

- **Recycling Bin Liners in Office Space**
  Every desk, copy room and meeting room at the Authority has a desk-side recycling bin with a smaller hanging trash bin. The use of liners in the recycling bins was discontinued limiting landfill waste.

- **Seating in Passenger Holding Room**
  The Authority is constantly improving and upgrading infrastructure to ensure a comfortable, modern, and pleasant experience for the passengers. Diversion is also important to remember when implementing construction and renovation projects. One renovation that kept sustainability in mind is the replacement of seats in the Terminal 1 gate holding areas. More than 2,800 seats were removed and replaced with updated seats and furniture that include power plugs for passengers to charge on the go. Coordinating with the contractor, the Authority was able to divert from the landfill the outdated seats by either reusing or recycling them.

- **Shrink Wrap (aka Plastic Wrap or Flexible Film)**
  In 2016 the Airport installed a baler to collect pallet shrink wrap for recycling. The Airport's logistics provider collects and bundles the shrink wrap until it is collected for recycling. In 2018, approximately 3,000 pounds of shrink-wrap was recycled. The process reduces the amount of shrink wrap needed by consolidating small pallet deliveries into one load and then shrink wrapping one large pallet rather than multiple small pallets.

- **Surplus Equipment**
  The Authority has made surplus equipment available for re-use if applicable through public auction or donation since 2009 with its Surplus Equipment Disposition Program. The purpose of this program is to try and increase the life of equipment and encourage reuse and recycling in a situation where the equipment would have been scrapped and sent to the landfill.

- **Surplus Furniture**
  The Authority has been mindful of reusing furniture for many years. The Authority maintains surplus furniture storage and reuses cubicle parts and furniture whenever possible. Recently, the West Wing, a temporary modular building office space was taken offline. The Authority repurposed approximately 75-80% of cubicle parts and 90% of office furniture before removing the structure from campus. For cubicle and office furniture, about 50% of materials are reused when configuring and moving office spaces. The West Wing office area was taken offline in 2017 with an estimated 75-80% of cubicle parts and 90% of office parts repurposed.

- **Universal Waste Batteries and Electronic Waste**
  The Authority provides a Universal Waste Battery Collection Program to all employees, allowing for an environmentally safe way to dispose of any universal waste batteries through 12 drop off locations featuring instructions and signage. In 2018, the Authority hosted two universal waste battery collection events that were open to all 8,000+ people, which work at the Airport. The collection events were incorporated into the "Rethink, Reduce, Reuse, Recycle" Sustainability Fairs that give all employees the option to recycle electronic and universal waste. The two collection events in 2018 yielded more than 13 tons of universal and electronic waste from tenants, airport employees, and Authority employees.

  The Authority's IT department holds onto working electronic equipment throughout the year until it is approved by the Board for disposal. The Authority then coordinates with its contractor, a local non-profit organization that makes information technology available to underserved populations. The non-profit collects unwanted electronics, salvages what they can, reuses equipment in a number of different charities throughout the region, or recycles unsalvageable material and uses the rebate to fund technology programs. In 2018, the Authority collected and donated over 9.5 tons of computer equipment to this organization.

- **Walk Off Mats**
  More than 2,000 square feet of mats were replaced in the terminals in June of 2017. These mats were recycled via the contractor and thus diverted from the landfill.

- **Water Bottle Refill**
  Water bottle refill stations and water fountains are located in each terminal to fill up reusable bottles and reduce the number of single-use plastic bottles used. In addition, passengers may ask any one of the food and beverage locations to refill reusable bottles with filtered water. In addition, several Authority departments purchase cooler size water bottles that are refilled, resulting in a reduction of both small and large size water bottles. Authority breakrooms and other common use spaces also have filtered water coolers and a number of atmospheric water generators (with the product name "Drinkable Air") that take humidity out of the air and converts it into pure drinking water.

Infrastructure and Development

- **Central Recycling and Waste Disposal Facility**
  The Authority's central recycling and waste disposal facility consolidates and streamlines all waste processing procedures at the Airport. This facility allows the Authority and the janitorial and waste service providers to be as efficient as possible while separating and collecting the trash, recyclables, and food waste. The facility is used by the janitorial services team, the airlines, and any other tenants. The facility contains the following equipment and features:
  - A berm and a spray prevention wall were installed in 2018 to contain potential contamination from generated at the facility from entering a nearby storm drain.
  - Two (2) 35-cubic yard compactors (one for trash and one for recyclables).
  - Two (2) 35-cubic yard tipper compactors (one for trash and one for recyclables).
  - One (1) 25-cubic yard food waste compactor to store all food waste destined for composting.
  - One (1) cardboard baler that provides an easy and cost-effective solution for bundling and recycling the large volume of cardboard produced at the airport.
  - One (1) 40- cubic yard container for wood and wooden pallets. This container is available for employees to reuse or recycle wooden pallets.
  - One (1) 25-cubic yard container for metals.
  - Twenty-six (26) 3-cubic yard towable carts are located throughout the Airport in a variety of places and are designed for use with the tipper compactors. These carts require less waste handling, reducing spills and the amount of trips needed to reach the disposal facility. These carts are towed throughout the Airport campus and to the central recycling and waste facility throughout the service day – resulting in less waste handling, and reducing spills and the number of trips needed to reach the disposal facility.

- **Compost Bins**
  All 53 of the food waste collection bins are included in the Authority's recycling totals and are located in concession prep kitchens, restaurants, the USO, and Authority office spaces.

- **Foreign Object Debris (FOD) Containers**
  Foreign Object Debris (FOD) is what the Airport considers trash on the airfield and is a high priority to be collected and placed in dedicated FOD containers due to the safety hazards that foreign objects can pose to aircraft and personnel. In July 2015, the Authority deployed 40 FOD containers, placing a bin at each gate where security rules allow. In December 2018, one of the largest airlines agreed to install these cans at all 19 gates in addition to placing recycling bins on the ramp for employees to use. Now all gates are equipped with FOD collection containers.

- **Liquid Waste Containment Units (aka "Dump Sinks)**
  In 2108, the Authority had 6 liquid waste containment units located at security checkpoints throughout the airport's terminals. Since containers carrying over 3 ounces of liquid cannot be taken through the passenger screening checkpoints, a large portion of recyclables were being improperly disposed of as trash and excessive amounts of liquids were contaminating the recycling loads. The liquid waste containment units allow travelers to dispose of liquids and then dispose of the empty container into the recycling or trash bins located alongside each unit. The liquids are then properly disposed of into the sanitary sewer. In 2018 the liquid containment units collected approximately 92,000 gallons of liquid. New artwork was placed on all units in 2018 and a pilot project was conducted to add a second unit in post document-checker at one of the checkpoints. This pilot project concluded that just as much liquid is collected at the beginning as at the end of the security checkpoint. Additionally, from the results of the pilot, the Authority calculates that each unit collects approximately 15,000 gallons of liquid a year, which is the equivalent of 127,000 pounds or 64 tons that would otherwise be transported to the landfill in the recycling or solid waste bins. These units help prevent liquid from entering our waste stream, reducing hauling/tipping costs and reducing contamination of the recycling loads.

- **Recycling Bins**
  There are over a thousand recycling containers throughout airport grounds. The containers are distributed throughout 3 general areas – public spaces, tenant areas, and the Authority's own office space. Recycling receptacles are deployed throughout the airport's terminals and along the curbside accessible to the public. There are also containers in the lobbies, centralized copying/printer areas, conference rooms, and break rooms and kitchen areas to ensure that employees and visitors have adequate access to properly dispose of recyclables. In addition to traditional recycling bins, the Authority has distributed 9 Big Belly Solar- Powered recycling compactors in front of both terminals at the airport. Each concession is expected to have at least one recycling can available for its employees to use.

- **Recycling Dumpsters or Compactors**
  The Authority's commingled recycling containers include 3 to 40 cubic yard bins that are managed by Republic Services, our waste services provider. There are currently 19 recycling dumpsters being utilized at the airport. In addition to commingled recycling dumpsters and compactors, the Authority utilizes 25-40 yard open top containers for scrap metal and wood, a 25-yard compactor for food waste, and a flatbed for baled cardboard.

- **Waste Bins**
  There are an estimated 1,169 trash bins scattered throughout 3 general areas – public spaces, tenant spaces, and the Authority's office spaces. Each employee also possesses a desk-side trash bin and has access to trash containers in the lobbies, centralized copying/printing areas, conference rooms, and every break area and kitchen. The Authority has a total of 9 solar powered Big Belly trash compactors throughout the terminals at the Airport. They are conjoined to the Big Belly recycling compactors, with educational signage on both compactors, to try and encourage visitors to think about their waste while also learning how renewable energy can be used to reduce labor, maintenance, and air quality costs.

  Research has shown one-to-one bin pairing and convenient placement of disposal containers reduces the risk for contamination and increases diversion or recycling rates. In 2017, members of the Authority conducted bin audits in the terminals, identifying the locations and types of bins. The bin locations were identified at the curbside area, pre-security areas, and post-security areas for both terminals. The bin maps were updated in 2018. Data from this audit helped identify if bins needed to be added, removed, or relocated in order to maximize one-to-one bin pairing and improve the passenger experience. Maximizing the efficiency of bin placement and ensuring one-to-one bin pairing will help to increase waste diversion and make it easier for passengers to recycle. The bin audit showed that about 68% of bins are currently paired with a recycling bin and a waste bin next to each other. Visual audits of the bins themselves were also observed during the walkthroughs and indicated that there is fairly low contamination in both trash and recycling bins. However, there is room for improvement in terms of adding recycling bins throughout the terminals, removing bins where there are too many in one location to create more space for passengers, and reducing consumption of resources like bin liners and staff time.

- **Waste Dumpsters or Compactors**
  The Authority's trash containers range in size from 3 to 40 cubic yard bins that are serviced by the Authority's waste hauler under contract. There are currently 17 trash dumpsters in use throughout the airport's grounds.

Training and Education

- **Electronic Communications**
  The Authority uses emails and other electronic communications, like webinars and conference calls, to alert Authority staff and airport employees on waste management and recycling updates, including information on upcoming waste diversion events and opportunities. In 2017, the Authority's Planning & Environmental Affairs Department began to produce a monthly blog post highlighting various sustainability efforts and initiatives throughout the Airport, and produces a monthly email bulletin, known as the "Green Flash," since 2010. The Green Flash provides important information related to the environment ranging from waste reduction to community outreach events. Green Flash is emailed to tenants and is disseminated to Authority staff using the Intranet. The Authority interacts on three social media platforms- Facebook, Instagram, and Twitter. Various posts on Airport and sustainability issues and updates are posted on these various platforms.

  The Authority uses its public webpage to post information about the Authority's commitments to being an environmental steward, as well as information surrounding recycling and e-waste programs at the Airport. In addition to the Airport's public webpage, the Authority's own internal webpage (only accessible by employees) contains more specific information on recycling as well as the monthly Green Flash e-bulletin, additions and changes to any recycling programs, and updates pertaining to environmental events. The Authority also maintains several web sites including Community.san.org, Sustain.san.org, and San.org/green.

- **Inspections**
  Once a year, recycling check-ins are conducted to ensure at least one recycling bin is available in office and kitchen spaces. This is also an opportunity to audit signage and confirm proper waste diversion practices. Since 2017 significant improvement has been made in recycling bin availability. As a result of the 2018 tenant recycling check-ins, 52 recycling bins were added in tenant office and kitchen spaces to pair with a landfill bin to give tenants the opportunity to recycle and divert more waste from the landfill. Recycling, Composting, and Landfill signage was also added to breakrooms, office spaces, food and beverage concessions, and retail concessions to ensure all employees know what items go into the proper bin.

- **Meetings**
  The Authority holds recurring meetings with a variety of stakeholders, including tenants, contractors, and vendors, and the Lindbergh Air Managers Council (LAMC). throughout the year. For example, monthly All Concessionaire Meetings (ACM) are held in order to keep concessionaires up-to-date with various Authority related subjects—including information on the sustainability, waste, and pest programs. The Authority also meets on a weekly basis with the Authority's janitorial service provider and monthly with the waste hauler, to ensure that every party is accurately informed. It allows for creative collaboration so that the groups can work together to produce solutions and innovative cleaning and waste diversion programs.

- **Meeting Waste Diversion**
  The Authority has taken many steps to decrease or divert waste that can be produced at meetings. Meeting media is projected and supplied to attendees electronically. Authority break rooms use reusable utensils and centralized water coolers (including Drinkable Air machines) where reusable water bottles or cups can be filled. When food is catered from outside vendors, the Airport strives to ensure that the correct amount of food is ordered (to minimize food waste). Any waste from meetings is segregated into the appropriate containers: food waste, recyclables, and non-recyclables. All of the receptacles are properly marked and maintain instructional signage to encourage correct usage and participation from visitors.

- **Waste Management Presentations**
  Members of the Planning and Environmental Affairs team periodically conduct a "What Goes Where" presentation to train employees on proper waste disposal and diversion, and encourage attendees to use the information to train their own staff. These presentations began in 2017, and so far, more than 300 people have been educated on proper waste disposal. Education will be offered on an annual basis for what goes where in terms of waste diversion (recycling, compost, and landfill) and opportunities for waste reduction. These presentations and workshops will take different forms, such as hosting lunch and learns, presenting to concession and tenant team leads during monthly meetings, or providing resources to employees on proper waste diversion practices.

- **"Rethink. Reduce, Reuse, Recycle" Sustainability Fairs**
  Bi-annual Sustainability Fairs are held by the Authority that offer Airport employees the opportunity to recycle electronic and universal waste, donate household items, and learn about waste management and reduction. Employees are encouraged to bring items from home and work to contribute to the recycling and reuse efforts. In addition, the Authority invites community groups to participate by educating attendees on how to live a more sustainable lifestyle.

- **Recycling Bin Color Coding, Liners, and Signage**
  Each recycling receptacle features the universal recycling symbol of three mutually chasing arrows and/or verbiage to indicate that the container is for recyclables only. In an effort to minimize contamination and increase employee knowledge, the Authority has put up signage and displays of proper recyclables on or above the recycling bins. Every food waste collection bin is green in color, with signage fastened directly onto the lid or on the wall above the container. The Authority includes signage and color-coding to try and make the waste diversion program decipherable and ingrain in employee minds what materials are acceptable to dispose of in trash, recycling, and food waste bins. In addition to signage, the Authority works with its janitorial services company under contract to install clear liners in all recycling cans and black liners in landfill cans to further differentiate the recycling from the landfill waste.

- **Rules and Regulations**
  The Authority provides information on waste reduction and recycling programs to employees and tenants. This information is available in the Airport Rules & Regulations and additional training and public communications throughout the year. The Rules and Regulations govern the conduct, use, actions, and operations of tenants, lessees, concessionaires, airlines, permittees, licensees, commercial user, and Authority employees of San Diego International Airport. The changes to the Rules and Regulations involve the cooperation of tenants, concessions, and airlines to recycle.

- **SAN Green Concessions Program**
  The SAN Green Concessions Program launched in June 2017. This voluntary rewards and recognition program celebrates food & beverage concessions and retail concessions on green practices, and works with them to implement more sustainable business procedures. Since the program launch, by the end of 2018, 50 concessions have been certified, equaling 61% of total concessions at the Airport. These certified SAN Green Concessions are leading the way by recycling, lowering energy and water consumption, using sustainable products, and educating their employees on greener business practices. The Authority provides educational opportunities, and sustainable resources, and marketing and promotional efforts for SAN Green Concessions. In 2018, staff from 10 concessions was educated on proper waste diversion practices, 16 concessions added more recycling bins, and 15 concessions switched to green cleaning products.

- **Signage on All Breakroom Containers throughout Airport and Authority Administration Spaces**
  Container audits also took place behind the scenes in tenant spaces including breakrooms, offices, and concession spaces, and signage in all of these locations serves as educational reminders for employees and to update them on new items allowed in the recycling stream. In 2018, the City of San Diego and the Airport began recycling Styrofoam and Tetrapak cartons. Following this change, over 600 landfill, recycling, and compost signs were placed in Airport tenant and Authority spaces. These signs were designed to be more aesthetically pleasing, easier to understand, and included the new items. The installation of these news signs also allowed Authority members to train new employees and re-train current employees on what goes where for waste diversion.

- **Sustainability Report**
  In 2018 the San Diego County Regional Airport Authority released its sixth Sustainability Report that covers calendar year 2017, and highlights the Authority's activities and accomplishments in the areas of environmental, economic, and social sustainability. Outreach was conducted to Authority departments and business partners to educate them on the linkages between the organization's mission and values and the "material" issues highlighted in the Sustainability Report. A video on sustainability at SAN was developed and is available on YouTube.

- **Tenant Information Notices**
  Tenant Information Notices are sent to each tenant at the airport, as well as Authority employees, to keep everyone up-to-date on any alterations, improvements, projects, and necessary information at the Airport. Whenever there is a change or addition to waste programs or procedures at the Authority, that information is included in the Tenant Informational Notice. Also, the Authority's annual e-waste events and Sustainability Fair are announced to every Authority Employee through these notices.

- **Web-based Training Modules**
  The Authority offers a series of training modules focused on different topics that every Authority employee must complete and pass each year. One of the modules is entitled "Environmental Sustainability and Stewardship," which includes information on: environmental sustainability, wildlife preservation, stormwater management, integrated pest management, and of course, recycling and waste management. To make it through each section, employees must read, listen, and answer each question correctly in order to pass. This ensures that all employees receive annual training and are properly educated on the current state of the Authority's recycling programs. The training includes information on the Authority's waste reduction, Food Waste Diversion Program, sustainability reporting, the Authority's commitment to LEED certification, as well as, public and alternative transportation options for employees.

- **Zero Waste Events Hosted by the Authority**
  The Authority began composting food waste at Authority events in 2017. At the Authority's biannual Sustainability Fair, the annual employee appreciation luncheon, AIREX (an airport-wide emergency exercise that takes place once every three years), and the holiday party, guests compost their food waste to keep it out of landfills. In 2018, larger Authority events and quarterly Lunch and Learn meetings were zero waste events. The Authority events included four Lunch and Learn seminars, two Sustainability Fairs, an Employee Appreciation BBQ, and an end of the year Holiday Party. Compost bins were present at each event with representatives staffing each waste station to help participants properly sort their food waste. These efforts reinforce the commitment to zero waste and waste diversion while educating the participants and engaging with them one-on-one. These events diverted more than 1,270 pounds of food waste from the landfill through composting efforts.

Metrics and Reporting

- **Data Collection on Unique Items**
  In 2018, the Authority continued collecting data on unique items (e.g., badges, rubber floor mats) that were diverted from the landfill. Continued efforts to collect the information is a reminder that the Authority is committed to keeping recyclable items out of the landfill and diverting whenever possible.

- **Waste Characterization Studies**
  Working with the Authority's waste hauler, two waste characterization studies will be conducted each year so the Authority has an opportunity to discover opportunities for further diversion and waste minimization. Information on these studies will be provided to staff and tenants so they know what items can be diverted, and where there are opportunities for improvement.

- **Waste Stream Inventory**
  Information was collected on the types and management of waste streams generated at SAN. This information was compiled into a Waste Stream Inventory. The Inventory includes the following information:
  - » Waste stream name;
  - » Locations that typically generate the waste;
  - » Waste stream type (i.e., non-hazardous solid waste, universal waste, medical waste, or hazardous waste);
  - » Brief statement describing how the waste is generated;
  - » Collection and storage methods; and
  - » Disposition (e.g., reused, recycled, or disposed; onsite or offsite).

  Waste streams can be reconsidered in the future as changes in recycling markets and technology occur that may affect waste stream prioritization scores and as SAN works toward establishing and then achieving its waste diversion goals.

Leadership and Influence

- **Airport Sustainability Declaration Signed**
  The Authority officially signed the 'Airports Sustainability Declaration' at the Airports Going Green Conference in Dallas on November 13, 2017. This Declaration is aligned with the United Nations Sustainable Development Goals, reflecting seventeen total topic areas. The Declaration calls for airports to develop, implement, and expand initiatives that improve the sustainability and resilience of airports and their surrounding communities. To help achieve this outcome, the Declaration promotes four key principles – collaboration, transparency, innovation, and engagement – and encourages partnerships between airports on a worldwide scale. The Authority is already implementing a portfolio of policies and projects that support the Airports Sustainability Declaration and its main principles. This is another opportunity to plan and build an enduring and resilient, customer-focused enterprise by effectively managing the financial, social, and environmental risks.

- **Awards and Recognition**
  - August 2017: Outstanding Construction and Demolition Award from the California Resource Recovery Association
  - September 2017: Emie Awarded to Airport Partners Bradford and Flagship from the San Diego Food System Alliance
  - October 2017: Environmental Excellence Award from the Industrial Environmental Association
  - March 2018: Environmental Achievement Award, Honorable Mention for Innovative and Special Projects for The Good Traveler from the Airports Council International North America
  - May 2018: "2017 Recycler of the Year" award at the City of San Diego's 26th Annual Waste Reduction Awards ceremony . It is the 14th time that the San Diego International Airport has received the award for its excellence in recycling and waste reduction!
  - July 2018: Large-Hub Airport Innovation Award from the American Association of Airport Executives
  - September 2018: Emie UnWasted Food Award from the San Diego Food System Alliance
  - November 2018: Sustainability Management Program for outstanding leadership in pursuit of sustainability within the aviation industry from the American Association of Airport Executives

APPENDIX B: Total Resource Use and Efficiency Zero Waste Certification

The Total Resource Use and Efficiency (TRUE) certification is used by facilities to define, pursue, and achieve zero waste goals. The certification is offered through a third party, Green Business Certification, Inc. (GBCI), which also administers the Leadership in Energy and Environmental Design (LEED) certification (the most widely applied green building rating system), which is currently in use at SAN.

ZERO WASTE

GBCI defines zero waste according to the Zero Waste International Alliance (zwia.org) definition:

"Zero waste is a goal that is ethical, economical, efficient, and visionary, to guide people in changing their lifestyles and practices to emulate sustainable natural cycles, where all discarded materials are designed to become resources for others to use. Zero waste means designing and managing products and processes to systematically avoid and eliminate the volume and toxicity of waste and materials, conserve and recover all resources, and not burn or bury them. Implementing zero waste will eliminate all discharges to land, water or air that are a threat to planetary, human, animal or plant health."

GOAL

The goal in the TRUE zero waste certification program is to divert all solid waste from the landfill, incineration (waste-to-energy), and the environment. Diversion is calculated by weight as follows:

$$\text{Diversion Rate} = \frac{\text{Materials diverted from landfill, incineration (WTE), and the environment}}{\text{Total Generation}}$$

The following activities are acceptable forms of diversion and may be included in the diversion calculations:

- **REDUCTION** – Efforts to reduce the generation of materials can be recognized in the diversion calculations provided that the reductions are documented from an established baseline representing previous operations
- **REUSE** – Avoided disposal resulting from the reuse of items
- **COMPOSTING** – Organic matter decomposed by microorganisms into a soil amendment
- **RECYCLING** – Materials converted into manufacturing feedstock material and used in creation of new products (excludes use as fuel substitute or for energy production)
- **ANAEROBIC DIGESTION** – Organic matter broken down by microorganisms into a soil amendment in the absence of oxygen (byproducts must be recovered for productive use in nature)
- **OTHER PROCESSING TECHNOLOGIES**, not including incineration or waste-to-energy, in which the end product is recovered for productive use in nature or the economy

MATERIALS SCOPE

The TRUE zero waste certification encompasses all solid, non-hazardous discards (referred to as "materials") generated within the project boundaries, including materials generated during regular operations as well as those generated during episodic activities (e.g., construction and demolition, special events, etc.). Hazardous materials are defined by federal and state regulations. Liquid wastes are included in the scope of materials if they are accepted in the landfill by the local jurisdiction and state. Wastewater is not included.

CERTIFICATION

Certification is achieved by meeting seven minimum program requirements (see Table B-1) and attaining at least 31 points on the TRUE zero waste scorecard. TRUE is a whole systems approach aimed at redesigning resource life cycles so that all products are reused and waste is not generated.

Table B-1: TRUE Minimum Program Requirements

Company or project seeking certification has a zero waste policy in place.
Project has achieved an average 90% or greater overall diversion from landfill, incineration (WTE), and the environment for solid, non-hazardous wastes (referred to as "materials" herein) for the most recent 12 months. Diverted materials are reduced, reused, recycled, composted and/or recovered for productive use in nature or the economy.
Project meets all federal, state/provincial and local solid waste and recycling laws and regulations. Project complies with all air, water and land discharge permits required for collection, handling or processing of materials.
Project has data documenting a base year of waste diversion data, and measurements since the base year that adjust for changes in size, type and nature of business.
Project does not exceed a 10% contamination level for any materials that leave the site.
Project submits 12 months of waste diversion data to GBCI annually to keep the certification current.
Company submits a case study of zero waste initiatives.

PROJECT

The TRUE zero waste rating system applies to physical facilities and their operations. The facility applying for certification is defined as a "project." A project is defined by the legal property boundary, which may or may not include multiple buildings. For projects located on publicly owned land, within a greater facility not seeking certification, or campuses that do not have internal property lines, the project boundary may use the legal limits of the campus or define an alternative boundary that is wholly contained within the legally owned site. It may not exclude sections of the property to create boundaries in unreasonable shapes for the sole purpose of achieving certain credits. Other criteria for defining the project are as follows:

- All operations must occur within the defined project boundary and be consistently accounted for in requirements and credit documentation
- The entire area contained within the project boundary must be held by the same ownership, property manager, or developer, or maintained under one operating body
- The facility (or facilities) included in the project must be operational for a minimum of 12 months and have a defined baseline period for waste diversion data.
- There is no maximum or minimum size for a project to be considered eligible for certification.

SAN DIEGO INTERNATIONAL AIRPORT

LET'S GO.

AECOM