

**Miami-Dade County Zero Waste Master Plan
Lead by Example**

Miami-Dade County Departmental Action Summary



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Executive Summary

This appendix summarizes practical, department-specific opportunities to reduce waste, improve diversion, strengthen accountability, and support Miami-Dade County's Zero Waste Master Plan.

Miami-Dade County has multiple near-term (1-4 years) opportunities to advance zero waste goals through practical changes in daily operations, procurement, facility management, public programming, and tenant or vendor requirements. The Zero Waste Strategies summarized in this appendix focus on departments and public spaces where waste reduction can be visible, measurable, and scalable, including:

- Miami International Airport (MIA) - Miami-Dade Aviation Department (MDAD)
- Countywide purchasing - Strategic Procurement Department (SPD)
- County facilities - People & Internal Operations Department (PIOD)
- Libraries – Miami-Dade Public Library System (MDPLS)
- County Parks – Parks, Recreation, and Open Spaces (PROS)

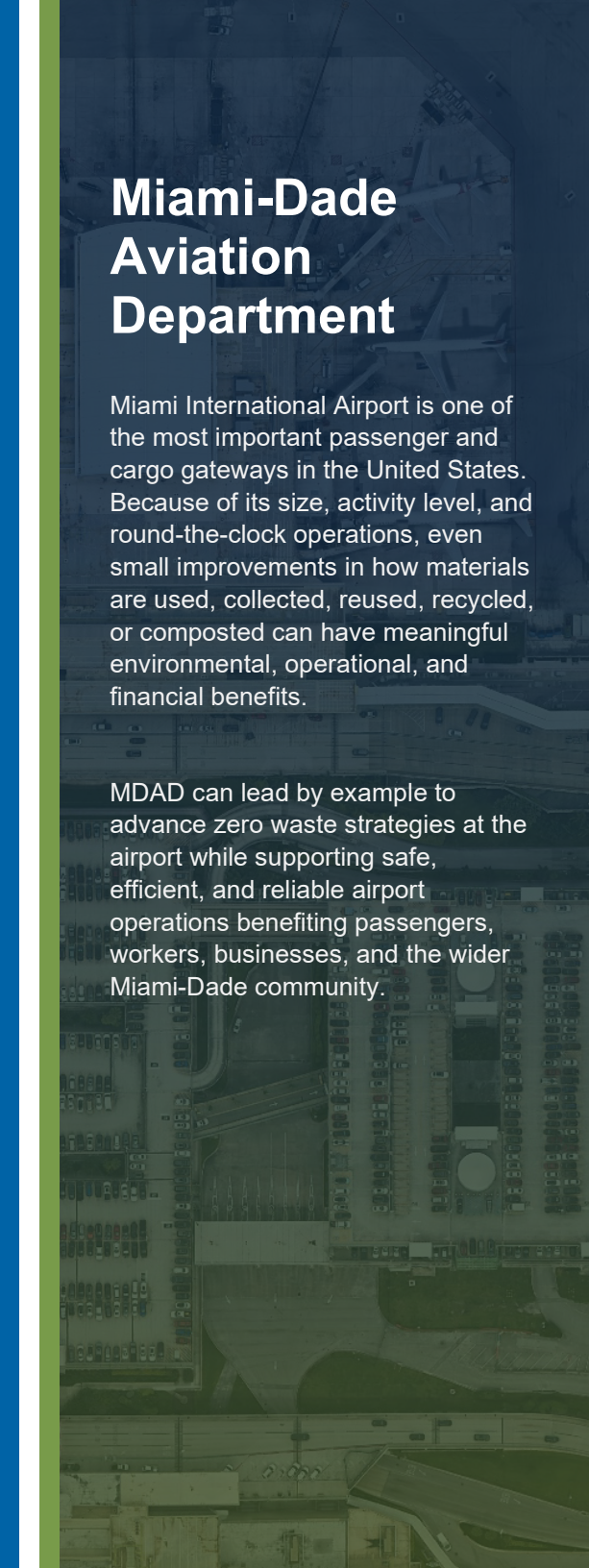
Across the sections, several common themes emerge that can be applied to all County departments and offices including, but not limited to:

- **Zero Waste Champion and Green Teams** to support implementation of zero waste strategies by coordinating within departments and engaging contractors, tenants, vendors, and facility staff.
- **Data collection** to establish baselines, assess pilots, track progress, and guide future funding for implementing waste reduction strategies.
- **Procurement and contract language** sets enforceable waste reduction requirements and expectations for vendors, tenants, events, packaging, and reporting.

Key implementation priorities that can be applied by all County departments and operations include standardizing bins and signage, improving waste audits and reporting, integrating zero waste expectations into leases, permits, solicitations, and contracts, allotting resources for compliance and enforcement, and using public-facing facilities such as libraries and parks as demonstration sites for recycling, composting, repair clinics, tool lending, and zero waste events.

Moving forward, the County can strengthen implementation by prioritizing a small number of cross-departmental pilots, assigning responsible leads, confirming compliance and enforcement, developing standard guidance and contract language, and reporting progress semi-annually.

These strategies help reduce the generation of waste, improve material recovery, support public education, and build the operational foundation needed to advance the Zero Waste Master Plan over time.



Miami-Dade Aviation Department

Miami International Airport is one of the most important passenger and cargo gateways in the United States. Because of its size, activity level, and round-the-clock operations, even small improvements in how materials are used, collected, reused, recycled, or composted can have meaningful environmental, operational, and financial benefits.

MDAD can lead by example to advance zero waste strategies at the airport while supporting safe, efficient, and reliable airport operations benefiting passengers, workers, businesses, and the wider Miami-Dade community.

Why It Matters

Airports generate many different types of materials every day, including bottles, cans, cardboard, pallets, food scraps, food packaging, plastic film, construction materials, and general garbage.

At a busy airport, these materials move through many hands, including passengers, airlines, concessionaires, janitorial staff, cargo operators, haulers, contractors, and airport employees.

When bins are confusing, space is limited, or responsibilities are unclear, recyclables and trash can be mixed together. This contamination increases costs, reduces recycling opportunities, and makes it harder to track progress.

Improving waste and materials management at the airport also supports public safety and operational reliability.

In cargo and airside areas, loose materials can contribute to Foreign Object Debris (FOB), which creates safety concerns for aircraft operations.

Better collection systems, clearer expectations for tenants and contractors, and improved accountability can help reduce these risks while also supporting the Miami-Dade County Zero Waste Master Plan.

Key Challenges

- **Limited space:** Terminal, airside, cargo, and concession areas have limited room for additional bins, compactors, storage, and sorting areas.
- **Complex operations:** Waste is generated by many different groups, including passengers, airlines, concessionaires, lounges, cargo tenants, contractors, and airport operations.
- **Contamination:** Recyclables, food waste, and garbage are often mixed together, reducing the value of recovered materials and increasing disposal costs.
- **Fragmented governance:** Separate contracts, leases, and operating procedures can make it difficult to apply one consistent airport-wide approach.
- **Data gaps:** More reliable information is needed on waste volumes, recycling performance, contamination rates, and pilot program results.
- **Safety concerns:** Loose materials in airside and cargo areas can create Foreign Object Debris (FOB) risks that must be addressed through better controls.

Implementation Steps

- **Zero Waste Champion and Green Team:** A Green Team led by a Zero Waste Champion would help coordinate work across airport operations, concessions, airlines, cargo tenants, janitorial services, haulers, procurement, legal, and capital project teams
- **Start better data:** Conduct waste composition audits to understand what is being thrown away, what could be recycled or composted, and where contamination is occurring.
- **Improve signage and bins:** Co-locate bins, and standardize labels, colors, and images so passengers, employees, and tenants can more easily place materials in the right containers.
- **Test pilot programs:** Pilot airline recycling, concession food scraps collection, reusable foodware, cardboard recovery, pallet return, plastic film recycling, and smart collection technology.
- **Strengthen training:** Provide regular training for janitorial staff, concessionaires, food trucks, airline partners, cargo tenants, haulers, and project teams.
- **Assess infrastructure:** Assess dishwashing stations, compactor capacity, storage needs, collection routes, and future capital project requirements.
- **Track and report progress:** Use semi-annual reporting to measure diversion, contamination, participation, costs, and opportunities for improvement.

Roles and Responsibilities

Successful implementation will require clearly defined roles, shared accountability, and coordinated participation across MDAD leadership, operations, procurement, tenants, contractors, airlines, concessionaires, and project teams. The following table identifies the primary responsibilities for each group to support consistent execution, communication, compliance, and performance tracking throughout the zero waste program.

Role/Group	Primary Responsibilities
MDAD Leadership	Approve implementation priorities, resolve policy and funding barriers, support airline and tenant engagement, and integrate zero waste into department objectives.
Zero Waste Champion and Green Team	Coordinate implementation, maintain the workplan, track action items, review performance data, and recommend corrective actions.
MDAD Operations and Facilities	Support waste audits, collection logistics, compactor siting, infrastructure planning, signage placement, and operational coordination.
Procurement and Legal	Develop and review contract, lease, concession, pouring agreement, and procurement language to support enforceable zero waste requirements.
Concessionaires and Food Trucks	Comply with material restrictions, prioritize the use of reusable foodware, participate in recycling and organics programs, train staff, report data where required, and correct non-compliance.
Airlines and Lounges	Participate in recycling, reusable foodware, food recovery, and waste reduction pilots; coordinate with MDAD on passenger-facing and back-of-house procedures.
Cargo Tenants	Implement cardboard, pallet, plastic film, and FOD prevention practices; and participate in scorecards and reporting.
Janitorial Contractors and Haulers	Follow collection procedures, prevent contamination, support audits, provide data, and participate in training and route optimization.
Capital Project Teams	Integrate circular economy, design-for-deconstruction, reuse, recycling, and waste infrastructure requirements into planning, design, construction, and handover.

Strategic Procurement Department

Miami-Dade County's Strategic Procurement Department (SPD) purchases thousands of products each year to support public services, facility operations, and day-to-day government functions.

Each purchase can also bring packaging into County facilities, including cardboard boxes, envelopes, plastic film, pallets, and other materials that must be stored, handled, recycled, reused, or disposed.

Smarter purchasing practices can help Miami-Dade County reduce packaging waste before it is created while supporting practical, cost-conscious, and Zero Waste Strategies.

Why It Matters

Every delivery to a County facility can create packaging waste, including cardboard, plastic film, paper mailers, and wood pallets. While each package may seem small on its own, the total impact grows quickly across hundreds of County locations, thousands of purchases, and repeated deliveries throughout the year.

Reducing packaging waste matters because it lowers the need for hauling and disposal, limits the amount of material sent to landfills, and makes better use of taxpayer-funded purchases. It can also improve day-to-day operations by reducing clutter, storage needs, and disposal burdens at County facilities.

These steps support the County's broader zero waste goals while showing residents that waste reduction starts not only at home, but also in how public agencies buy, receive, and manage the goods they use every day.

Key Challenges

- **Limited packaging data:** The County may not always know how much packaging is associated with each purchase, making it harder to set baselines, compare suppliers, and measure avoided waste.
- **Operational capacity varies by facility:** Some locations may have space, staffing, or loading-area constraints that affect their ability to store pallets, separate materials, or participate in takeback programs.
- **Supplier practices are not uniform:** Packaging design, delivery methods, and willingness to provide takeback or reporting options can differ across vendors and product categories.
- **Purchasing decisions are decentralized:** Buyers across departments may need clear guidance, simple tools, and consistent messaging to select lower-packaging options when available.
- **High-volume material streams:** Cardboard remains a major material to manage making up about 12% of the County facility waste stream in 2025.

Implementation Steps

- **Zero Waste Champion and Green Team:** A Green Team led by a Zero Waste Champion would help coordinate cross-departmental packaging waste reduction efforts across procurement staff, user departments, suppliers, legal, facilities, and waste management teams.
- **Collect baseline packaging data:** Track packaging types, quantities, participating facilities, supplier responses, and avoided or diverted materials during early pilots.
- **Conduct a policy audit:** Form a cross-departmental task team to review existing policies and identify competing or inconsistent requirements across departments. Use the policy audit to inform any changes to the County's Purpose Driven Procurement (PDP) Policies.
- **Leverage buying power:** The County's buying power can encourage suppliers to reduce packaging, reuse materials, and take back transport packaging.
- **Consolidate vendor accounts:** Reduce the number of accounts used for major County vendors, including Amazon, to reinforce sustainable purchasing practices and support more consistent packaging reduction expectations.
- **Include takeback requirements in procurement policies:** Add expectations for pallet reuse and removal, packaging reduction and recovery, and basic reporting to the Procurement Guidance Document and Best Management Practices Manual, and PDP.

- **Reuse idle County assets:** Create a Countywide inventory of idle furniture, equipment, supplies, and other assets so departments can check for reusable items before making new purchases. An inventory of the County Store inventory would be a meaningful first step in streamlining Departmental use of idle assets.

Roles and Responsibilities

The following table summarizes recommended roles and responsibilities for advancing waste red through procurement practices.

Role/Group	Primary Responsibilities
Strategic Procurement Department	Integrate packaging reduction, supplier takeback, Shipped-In-Product Packaging (SIPP) preference, reusable asset checks, and reporting requirements into procurement guidance, solicitations, and contract language.
Zero Waste Champion and Green Team	Support waste audits, quantify packaging and cardboard impacts, and evaluate diversion opportunities. Support staff engagement, promote sustainable purchasing practices, and share facility-level lessons learned.
Contract Managers	Monitor vendor compliance with packaging requirements, review supplier reporting, document performance issues, and coordinate corrective actions when needed.
Legal and Risk Management	Review proposed contract language, supplier takeback provisions, liability considerations, and risk controls related to reverse logistics and reusable packaging systems.
User Departments and County Facilities	Identify high-volume purchasing streams, apply sustainable purchasing criteria, support pilot implementation, and provide operational feedback on packaging impacts.
Department of Solid Waste Management	Evaluate cost implications, avoided disposal costs, potential savings from reduced packaging, and budget needs for pilots, audits, or supporting infrastructure, and measure outcomes.
Facilities and Operations Staff	Coordinate receiving, storage, staging, and return logistics for reusable or returnable packaging materials, including pallets and bulk delivery materials.
Suppliers and Contract Vendors	Provide packaging data, participate in takeback or reverse logistics pilots, offer minimal-packaging options, and comply with packaging reduction requirements.

People and Internal Operations Department

The People & Internal Operations Department (PIOD) provides centralized administrative support services that enable all county departments to function effectively and efficiently.

PIOD is responsible for facility maintenance, space planning, and capital improvements across hundreds of county buildings and properties.

Through its oversight of County facilities and fleet, the department can influence waste generation, recycling infrastructure, sustainable building operations, and implementing Zero Waste Strategies that can be scaled countywide.

Why It Matters

The People and Internal Operations Department's operational responsibilities make it a critical implementation partner for Miami-Dade County's zero waste goals. Enhancements to surplus management, wood pallet handling, e-waste diversion, and maintenance practices can reduce waste while also improving efficiency across County facilities.

It's important to identify practical opportunities to move from reactive disposal toward proactive materials management and targeted waste reduction. A more visible surplus inventory could help departments reuse items before buying new, potentially duplicative assets or generate revenue through sales, while stronger vendor requirements could reduce recurring waste streams such as pallets and excess packaging at County sites.

By piloting targeted solutions through PIOD, the County can test approaches that are operationally realistic, measurable, and scalable. Successful pilots could become repeatable models for other departments and support broader implementation of the Zero Waste Master Plan.

Key Challenges

- **Limited surplus visibility and access:** Departments do not have a searchable online inventory to view available County Store items, which limits interdepartmental reuse and may contribute to unnecessary purchasing.
- **Space and storage constraints:** The County Store has limited warehouse space, and departments sometimes accumulate surplus items before scheduling pickup, creating congestion and delaying recovery.
- **Staffing and workflow capacity:** A surplus inventory platform could improve access, but ongoing management would require staff time, clear procedures, and sustainable administrative support.
- **Inconsistent diversion pathways:** Some materials, such as e-waste and universal waste (i.e., batteries, lamps, aerosol cans, etc.) are recycled when feasible, but non-sellable items are often commingled, reducing recovery potential.
- **Pallet accumulation:** Vendors often leave pallets behind at facilities, creating loading dock congestion and leading to disposal in construction dumpsters.
- **Procurement alignment:** Reusable pallet, vendor take-back, and packaging reduction requirements will need coordinated contract language to be implemented consistently across applicable purchases.

Implementation Steps

- **Zero Waste Champion and Green Team:** A Green Team led by a Zero Waste Champion would help coordinate work across facilities and County departments.
- **Conduct a waste collection service audit:** Review waste collection contracts for each County facility to confirm diversion services are provided at all service addresses, then verify container types, sizes and setout accurately reflect the services contracts.
- **Assess surplus inventory:** Begin with high-volume or high-value reusable items such as furniture, office equipment, and electronics to improve visibility, support interdepartmental reuse, and reduce disposal or duplicate purchasing.
- **Draft procurement language:** Coordinate with the Strategic Procurement Department to develop standard language for reusable pallets, vendor take-back, and packaging reduction requirements.
- **Build online marketplace platform:** Assess staffing, administrative fee options, and workflow requirements for operating an online marketplace for surplus inventory.
- **Develop office cleanout plan:** Explore partnerships, donation networks, or pre-move surplus assessments to capture reusable furniture and equipment before disposal for County departments.

- **Explore pallet diversion program:** Identify pallet reclamation vendors and determine whether centralized collection at facilities with available space can serve as an interim staging area for a diversion program.
- **Track and report progress:** Use semi-annual reporting to document surplus reuse, pallet diversion, e-waste recovery, recycling and compost recovery, vendor compliance, implementation costs, and opportunities to improve or scale successful practices.

Roles and Responsibilities

Successful implementation will require coordination across PIOD, facility managers, participating County departments, departmental green teams, and vendors. The following roles clarify suggested ownership for planning and implementation activities aligned with Miami-Dade County's Zero Waste Master Plan.

Role/Group	Primary Responsibilities
PIOD Leadership	Lead surplus property operations, confirm operational constraints, evaluate County Store workflow needs, and determine whether a surplus inventory pilot is feasible.
Zero Waste Champion and Green Team	Research vendor and reuse options, identify potential program models, and prepare implementation concepts for PIOD review.
Strategic Procurement Department	Draft and review standard contract language for reusable pallets, vendor take-back, packaging reduction, and related requirements. Coordinate with PIOD, legal, or contract staff as needed.
Facility Managers	Identify high-volume waste accumulation locations (i.e., packaging waste and/or pallets), available staging space, loading dock constraints, and site-level operational issues.
All County Departments	Participate in surplus reuse processes, schedule surplus pickups, identify reusable materials during office cleanouts, and use available inventory tools if piloted.
Vendors and Service Providers	Comply with materials take-back requirements, reusable packaging practices, e-waste recycling, pallet recycling, and other material diversion services where applicable.

Miami-Dade County Public Library System

Miami-Dade County Public Library System (MDPLS) spans 50 locations across the region, including bookmobiles and techno-buses that ensure access for all residents. The service area covers 35 municipalities as well as all unincorporated parts of the county.

MDPLS has already made meaningful progress toward zero waste practices and is well positioned to build on that foundation through expanded messaging, programming, and collection initiatives

Why It Matters

Libraries are trusted, highly accessible public spaces that can help translate the County's zero-waste goals into everyday actions residents can see, understand, and practice. Because the Miami-Dade County Public Library System reaches communities across the region, even modest improvements in recycling education, reuse programming, repair events, and waste-conscious event practices can create broad public visibility and reinforce consistent Countywide messaging.

From an implementation perspective, libraries are often willing partners, but their success depends on program designs that respect staffing, space, property ownership, and operational limits. Focusing on partner-supported and vendor-managed models can allow libraries to expand their sustainability role without compromising core library services.

Key Challenges

- **Staff capacity:** Limited staffing has been identified as the primary barrier to fully integrating zero waste initiatives systemwide. Libraries have limited ability to take on labor-intensive activities such as cleaning, sorting, cataloging, or managing material donations.
- **Property ownership limitations:** Some branches are located in leased spaces, strip malls, or city-owned buildings, which may limit the ability to install collection infrastructure.
- **Interior collection constraints:** Indoor drop-off programs may create space, safety, cleanliness, and staff-management challenges.
- **Limited storage space:** Expanded lending programs require secure, accessible storage for items such as tools, garden equipment, or household goods.
- **Lack of clarity:** The absence of clear definitions and formal guidance for zero waste strategies presents a challenge, particularly regarding compost collection, reusable materials, and vendor responsibilities.

Implementation Steps

- **Zero Waste Champion and Green Team:** A Green Team led by a Zero Waste Champion would help coordinate and conduct systemwide library waste assessments, identify waste reduction, and collection practices.
- **Improve signage and bins:** Co-located bins and standardize labels, colors, and images on all collection containers systemwide.
- **Host reuse, sharing, and repair events:** Provide space for partner-led events (i.e., Fix-it Clinics) that help residents repair items, share resources, and reduce disposal.
- **Establish a lending library:** Explore lending models (i.e., Library of Things) for tools, appliances, and other durable goods to expand access for residents.
- **Provide specialty material drop-off options:** Offer convenient drop-off for universal waste and other hard-to-recycle materials where staffing, space, and vendor support are available.
- **Develop zero waste event guide:** Create a guide for event organizers covering waste reduction, reusable foodware, compostable materials, compost collection, etc.
- **Assess rental and vendor agreements:** Review existing event rental agreements to determine whether event-use agreements or janitorial fee discussions can incorporate waste reduction expectations and enforce single-use product prohibition.

- **Require zero waste for onsite events:** Include waste reduction, sorting, reusable materials, and vendor responsibilities in event agreements.
- **Support edible food donation:** Identify opportunities for safe donation of surplus edible food from eligible library events or programs.
- **Pilot public food scraps collection:** Provide residents opportunities to dropoff food scraps at suitable locations where collection logistics and contamination controls can be managed. Prioritize County-owned branches where secure, bolted-down receptacles can be managed by an external collection vendor.
- **Procure locally produced mulch and compost:** Prioritize locally produced soil amendments for landscaping or program needs when consistent with County procurement requirements.

Roles and Responsibilities

Successful implementation will require coordination among procurement staff, user departments, facility managers, suppliers, and waste management staff.

Role/Group	Primary Responsibilities
Zero Waste Champion and Green Team	Develop program concepts, provide technical guidance, conduct audits, identify priority waste streams, and align library initiatives with Countywide zero waste goals.
Library Leadership	Verify feasibility of projects, approve branch participation, identify operational constraints, and guide systemwide messaging or policy alignment.
Branch Managers and Library Staff	Provide practical input on space, staffing, event logistics, public communication, day-to-day operational considerations.
Department of Solid Waste Management	Clarify recycling requirements, advise on collection logistics, and connect programs to the Zero Waste Strategies.
Event Organizers and Vendors	Comply with zero waste event requirements.
Community Partners and Volunteers	Support education, outreach, cataloging assistance, repair events, donations, and program promotion where appropriate.

Parks, Recreation, and Open Spaces Department

The Parks, Recreation, and Open Spaces Department (PROS) manages an extensive network of parks, recreational facilities, natural areas, and green spaces that serve Miami-Dade County residents and visitors.

With facilities distributed throughout the county hosting millions of visitors annually, PROS has substantial opportunities to implement zero waste initiatives including zero waste events, park recycling and composting programs, native landscaping that reduces green waste, reusable equipment and supplies, and environmental education programs that teach visitors about waste reduction and conservation.

Why It Matters

The Parks, Recreation, and Open Spaces (PROS) Department is uniquely positioned to make sustainability visible and practical because parks and public facilities, such as Zoo Miami, are among the County's most accessible public spaces. Waste reduction strategies implemented in these settings can reduce disposal costs, improve visitor experience, support cleaner public areas, and demonstrate how recycling, composting, reuse, and responsible purchasing can work in everyday settings. Because parks host events, youth programs, concessions, recreation centers, natural areas, and maintenance operations, they offer multiple points of influence—from vendor requirements and event permits to educational signage, composting pilots, and landscape material reuse. These efforts can help normalize sustainable behavior for residents and visitors while advancing broader County goals related to resource conservation, waste diversion, climate resilience, and overall environmental stewardship.

Key Challenges

- **Standardizing collections infrastructure:** Recycling and garbage containers are not yet standardized across all parks, and older sites still need retrofits for consistent bin placement, labeling, and design.
- **Proper sorting:** Clear signage and education are needed to reduce contamination.
- **Operational complexity and staffing for zero waste initiatives:** Composting, food scrap drop-off, dog waste composting, vendor requirements, and reviewing event waste plans require staffing, servicing logistics, processing outlets, and clear roles among PROS, DSWM, contractors, and event organizers.
- **Regulatory and contractual constraints:** New programs must align with County requirements, [Article 7 limitations](#), permitting considerations, procurement rules, and enforceable contract or permit language.
- **Resources:** Staff capacity, signage upkeep, compliance checks, and maintenance requires security in funding.

Implementation Steps

- **Standardize park recycling infrastructure:** Develop consistent specifications for recycling and garbage containers, including paired placement, colors, labels, images of accepted material, and placement standards for high-traffic park areas, concessions, recreation centers, trails, beaches, and event zones.
- **Assess water refill station infrastructure:** Inventory existing water refill stations and identify priority locations for new or upgraded stations to reduce single-use plastic bottles at parks, recreation centers, beaches, trails, event areas, and Zoo Miami.
- **Update event and vendor requirements:** Incorporate Zero Waste Events Guide requirements into special event permits and concession agreements, including waste management plans, recycling and composting service requirements where feasible, reusable or recyclable foodware preferences, vendor education, and post-event compliance checks.
- **Expand public food scraps collection:** Advance food scrap drop-off pilots at suitable parks such as Fruit & Spice Park, Tropical Park, and Greynolds Park, using serviced containers, contamination controls, clear signage, and defined roles for PROS, DSWM, haulers, and composting partners before expanding to additional locations.
- **Procure locally produced mulch and compost:** Expand composting and mulch reuse

where feasible and prioritize locally produced soil amendments, including Zoo Miami's Zoo Doo compost, for landscaping or program needs when consistent with County procurement requirements.

- **Strengthen education and behavior-change efforts:** Use parks as public demonstration sites by integrating recycling and composting education into signage, youth programs, summer camps, nature centers, volunteer cleanups, and competitions between recreation centers.
- **Track performance and operational needs:** Establish baseline data on bin ratios, recycling access, restroom waste products, event compliance, pilot participation, contamination rates, and diversion outcomes to prioritize improvement projects, justify funding, and guide future expansion.

Roles and Responsibilities

Successful implementation will require clear coordination across County departments, park operations, contractors, vendors, and community partners. Defining roles upfront will help ensure that recycling, composting, event waste requirements, pilot programs, and public education efforts are practical, enforceable, and aligned with County zero waste goals.

Role/Group	Primary Responsibilities
PROS	Lead park-level implementation, verify Article 7 compliance, identify pilot sites, coordinate operations, provide data, and integrate Zero Waste Strategies into programming.
Department of Solid Waste Management	Provide technical guidance on recycling, organics management, hauling, processing, signage, contamination control, metrics, and Zero Waste Master Plan alignment.
Environmental Resources Management	Review permit, contract, Article 7, procurement, and regulatory requirements for practicality and enforceability.
Event Organizers and Vendors	Comply with zero waste event requirements.
Community Partners and Volunteers	Support education, outreach, cataloging assistance, repair events, donations, and program promotion where appropriate.

Water and Sewer Department

The Miami-Dade Water and Sewer Department (WASD) provides essential drinking water and wastewater services that support public health, environmental protection, and daily operations across the County.

The department's operations are extensive, maintaining approximately 4,100 miles of sewer lines as part of a countywide utility system that serves residents, businesses, municipalities, and visitors.

Through utility conservation programs, infrastructure upgrades, regulatory compliance, and customer service programs, WASD helps ensure reliable service while supporting long-term growth and resilience.

Why It Matters

The Water and Sewer Department (WASD) is an important partner to the Department of Solid Waste Management (DSWM) because its wastewater operations generate byproducts that may be better managed, recovered, or reused. Potential opportunities include increasing recycling at wastewater treatment facilities, diverting construction materials from disposal, beneficially reusing biosolids where appropriate, and coordinating with County partners on procurement and infrastructure planning. These actions advance Miami-Dade County's Zero Waste Master Plan by reducing waste, improving material management across utility operations, and supporting resource recovery.

Additionally, through utility conservation programs, infrastructure upgrades, regulatory compliance, and resource recovery initiatives, WASD can help Miami-Dade County reduce waste, improve material management, and strengthen long-term resilience. Integrating WASD's waste stream management efforts into the countywide Zero Waste Master Plan supports a more circular approach to public infrastructure by identifying opportunities to recover value from byproducts that are currently costly, operationally challenging, or dependent on limited disposal markets.

Key Challenges

- **Regulatory and compliance uncertainty:** Biosolids, Fats/Oil/Grease (FOG), lime residuals, and emerging technologies must meet state and local requirements that often change and can be difficult to interpret, implement, and maintain.
- **Data gaps:** Lack of verified facility-specific data on biosolids and lime residual tonnages, disposal destinations, vendor availability, and reuse markets.
- **Limited reuse markets:** Reuse options for biosolids, FOG, and lime residuals may be constrained by regulatory approvals, vendor availability, transportation costs, and market demand.
- **Waste stream management complexity:** WASD must safely manage biosolids and FOG, which require treatment, handling, reuse planning, and regulatory compliance while also addressing maintenance needs, overflow risks, and wastewater treatment impacts.
- **Technology feasibility and scalability:** Emerging technologies such as biosolids-to-hydrogen, sludge-to-fuel, and advanced digestion have uncertain costs, reliability, permitting feasibility, emissions impacts, market readiness, and compatibility with WASD's existing systems throughout the four wastewater treatment facilities.

Implementation Steps

- **Zero Waste Champion and Green Team:** Champion and Green Team would help establish a coordination process among WASD, DSWM, DERM, SPD, and technology partners to align permitting, procurement, infrastructure planning, and zero waste strategies.
- **Develop a biosolids management roadmap:** Establish a phased strategy for confirming biosolids quantities, evaluating Class AA treatment pathways, identifying reuse markets, and reducing reliance on limited land application or disposal outlets.
- **Integrate anaerobic digestion infrastructure:** Evaluate opportunities to modernize or expand anaerobic digestion capacity for biosolids management, including biogas recovery, process stability, permitting needs, facility constraints, and compatibility with long-term WASD capital planning.
- **Strengthen FOG source controls and recovery planning:** Expand prevention, inspection, education, recovery, and collection strategies while identifying viable opportunities for local biodiesel production.
- **Gather Data:** Validate baseline data for biosolids, lime residual, and FOG generation rates by facility and by management pathway.

Roles and Responsibilities

The following table summarizes the lead, support, and coordination roles needed to move WASD's zero waste opportunities from planning to implementation. Clear responsibilities will help align technical review, regulatory compliance, procurement, project tracking, and partner coordination across departments and external stakeholders.

Role/Group	Primary Responsibilities
WASD Leadership	Provide facility data, confirm waste quantities, identify operational constraints, evaluate treatment options, and lead implementation for WASD-managed waste streams.
Zero Waste Champion and Green Team	Serve as the primary point of contact for WASD zero waste actions, promote internal accountability, coordinate with project partners, elevate barriers, and track progress toward department-specific goals.
DSWM	Align WASD opportunities with Zero Waste Master Plan goals, disposal resilience planning, and potential sustainable materials management industry partnerships.
Strategic Procurement Department (SPD)	Develop contract pathways for hauling, disposal, treatment, pilot technologies, reuse services, and vendor diversification consistent with County requirements.
Environmental Resources Management	Support review of environmental requirements, permitting considerations, land application issues, PFAS concerns, and beneficial reuse feasibility.
Technology Vendors and Industry Partners	Provide technical information, pilot project design, performance data, cost estimates, market options, and operational support for reuse or recovery solutions.
Capital Project Teams	Integrate zero waste strategies into facility upgrades, anaerobic digestion improvements, biosolids infrastructure, capital planning, design review, cost estimating, scheduling, and construction coordination.

Department of Housing and Community Development

The Miami-Dade County Department of Housing and Community Development (HCD) serves as the official public housing agency and community development office for the county. It manages approximately 6,500 public housing units, oversees 1,700 non-public affordable units, and provides Section 8 rental assistance to over 19,000 households.

Why It Matters

As the County's public housing agency and community development office, HCD reaches thousands of residents through public housing, affordable housing, and rental assistance programs. This position enables HCD to advance landfill diversion by integrating waste reduction, reuse, and recycling practices into the housing programs it manages and funds.

Through coordination with the Department of Solid Waste Management, HCD can help multifamily and affordable housing properties provide reliable recycling access, clear resident education, and property-level compliance support.

These actions directly support Miami-Dade County's Zero Waste Master Plan by expanding equitable recycling access, reducing contamination, piloting organics management programs, and incorporating reuse and repair into community development initiatives.

Key Challenges

- **Inconsistent recycling access:** Multifamily and affordable housing properties have inappropriate recycling service levels, insufficient container capacity, or inconvenient collection areas without a standard process for reporting service gaps.
- **Tenant turnover and education:** High tenant turnover, limited recycling awareness, and language barriers hinder consistent waste and recycling practices over time.
- **Contamination:** Incorrect sorting reduces recycling effectiveness, increases collection or processing costs, and discourages participation.
- **Cost and equity concerns:** Waste reduction strategies must avoid increasing financial burdens for low-income residents or creating barriers to participation.
- **Fragmented property-level coordination:** Without consistent cooperation among HCD, DSWM, property managers, landlords, haulers, and residents, recycling and diversion efforts may remain uneven, poorly maintained, and difficult to sustain.

Implementation Steps

- **Incorporate recycling into affordable housing contracts and agreements:** For HCD-funded developments, rehabilitation projects, and landlord participation agreements, HCD can include waste diversion expectations such as allocating space for collection containers, maintaining signage, educating residents at move-in, and reporting service issues. This would help embed recycling and compost collection into normal property operations rather than treating it as an optional resident behavior.
- **Support multifamily recycling compliance:** Miami-Dade requires apartment and condominium buildings to provide recycling programs, and noncompliant properties may face fines. HCD can help publicly supported properties, voucher landlords, and affordable housing partners meet these requirements by offering practical guidance, approved-hauler information, and tenant education materials.
- **Focus on resident education:** HCD can help residents recycle right by distributing simple, multilingual recycling guidance through lease packets, resident meetings, lobby posters, digital portals, and property manager communications.

- **Pilot organics collection at selected public housing properties:** To support zero waste strategies focused on organics management and composting, HCD should work with DSWM to test food-scrap drop-off, community composting, or garden-based compost education at selected senior, family, or mixed-income properties.

Roles and Responsibilities

Clear roles among County departments, property owners, service providers, and residents are essential to improve coordination, close service gaps, support compliance, and ensure consistent waste reduction and recycling programs across HCD-supported housing.

Role/Group	Primary Responsibilities
HCD Leadership	Integrate waste reduction, reuse, and recycling into HCD-managed properties, affordable housing agreements, rehabilitation projects, and resident communication materials.
DSWM	Provide technical guidance, recycling requirements, approved-hauler information, contamination reduction strategies, and support for organics or other diversion pilots.
Property Managers and Landlords	Maintain accessible recycling areas, ensure adequate container capacity, post clear signage, report service issues, and reinforce recycling expectations through outreach and education with residents.
Residents	Participate in waste reduction and recycling programs, follow sorting guidance, reduce contamination, and report barriers such as overflowing containers or unclear signage.
Haulers and Service Providers	Deliver reliable collection service, provide service data when available, identify contamination or access issues, and coordinate with property staff to resolve collection problems.