



Designing for Food Waste:

Commercial Waste-Management Guidelines, Tactics & Opportunities

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20008 Fiscal Year Waste Estimates for Austin

Garbage collected: 143,950 tons / 383.86 lbs. per resident

Recycled: 34,691 tons / 92.5 lbs. per resident

Brush: 7,380 tons / 19.68 lbs. per resident

Yard: 24,027 tons / 64.07 lbs. per resident

Bulky: 7,792 tons / 20.77 lbs. per resident







Commercial Kitchen







According to the EPA:

Yard trimmings and food residuals together constitute 24 percent of the U.S. municipal solid waste stream.



Municipal Solid Waste Categories:

- **Biodegradable waste:** food and kitchen waste, green waste, paper (can also be recycled).
- **Recyclable material:** paper, glass, bottles, cans, metals, certain plastics, etc.
- **Inert waste:** construction and demolition waste, dirt, rocks, debris.
- **Composite wastes:** waste clothing, Tetra Paks, waste plastics such as toys.
- **Domestic hazardous waste (also called "household hazardous waste") & toxic waste:** medication, e-waste, paints, chemicals, light bulbs, fluorescent tubes, spray cans, fertilizer and pesticide containers, batteries, shoe polish.

Diversion Tactics



Presentation Goals:

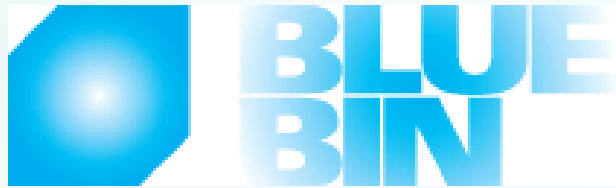
1. Design Guidelines for Waste: LEED for Retail
2. Ten Waste Reduction Tactics
3. Waste-to-Resource Program: Austin Refuel

Justin Doak

QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.



Hat 1



Hat 2



Guideline Example: LEED

LEED for Retail 2009 New Construction

Materials and Resources (MR)

Credit	14 points
• Storage and Collection of Recyclables	Required
• Building Reuse	1-4
• Construction Waste Management	1-2
• Materials Reuse	1-2
• Recycled Content	1-2
• Regional Materials	1-2
• Rapidly Renewable Materials	1
• Certified Wood	1



MR Prerequisite:

Storage and Collection of Recyclables

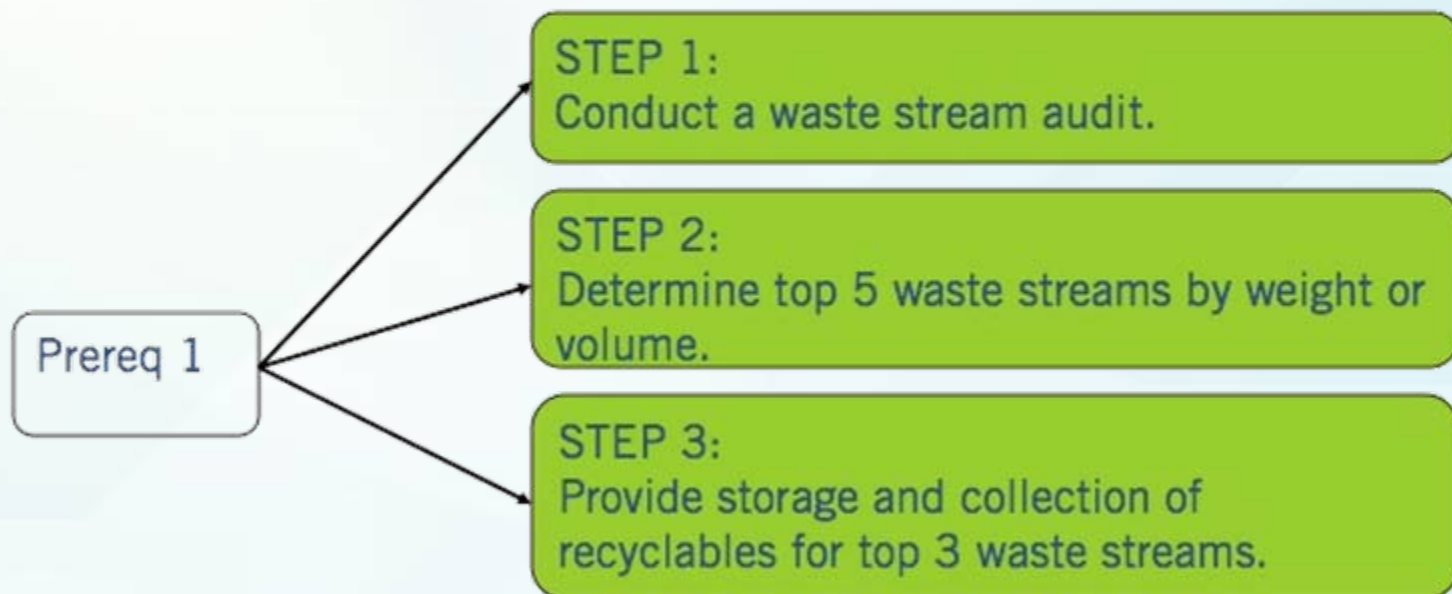
Intent:

Facilitate the reduction of waste generated by building occupants that is hauled to and disposed of in landfills.



MR Prerequisite:

Storage and Collection of Recyclables



Sample Waste Profile

Retail Category – Specialty Foods

Top 5 Based on Volume:

Cardboard	32%	recyclable
All other waste	29%	non-recyclable
Milk Jugs	15%	recyclable
Paper Cups 9%		non-recyclable
Pastry Boxes	8%	non-recyclable

Top 5 Based on Weight:

Miscellaneous	38%	non-recyclable
Organics	43%	compostable/recyclable
Cardboard	12%	recyclable
Newspaper	7%	recyclable

Select Priorities

1

2

3



Red Flag:

Front of House vs. Back of House

10 Step by Step Tactics

Tactic 1: Conduct a waste assessment. Either by glancing into your trash cans or making a mental list of products being purchased will tell you the types of waste your restaurant generates. Knowing the waste types is crucial to planning a recycling program.

Step 1: Choose the areas to evaluate and collect the garbage. Collect the garbage at the end of the day and set it aside to audit the next day, unless you are doing the audit after school.

Step 2: Assign tasks.

If you are examining several areas, assign a team of students to each area. If you are examining only one area, give each student one of the evaluation tasks listed below: Sorters: You need three to eight students to sort materials into categories. Weighers: You need one to two students to weigh materials. Recorders: You need one to two students to keep track of the weights and volumes.

Step 3: Do the Audit!

Carry the garbage you are evaluating to a place where you can sort the garbage on the tarp. The parking lot next to the dumpsters is best (if it's not windy or raining).

Tactic 2: Implement a recycling program.

Recycling involves more than just sorting aluminum cans and plastic bottles. Through proper waste management, your restaurant can greatly decrease its garbage bill.

Tactic 3: Keep an eye on your food waste. Pay attention to what your bussers are bringing back into the kitchen, and remove or minimize foods that customers do not typically finish. And although presentation is important, reducing garnishes will save you money on both food and trash costs.

STEP 4: Purchase recycled content products.

Using recycled and recyclable products closes the recycling loop. Items made from post-consumer recycled material are the most eco-friendly choice.

Tactic 5: Send food packaging back. Pallets and food crates can be used again, so talk with your supplier and see how to best handle food packaging for reuse.

Tactic 6: Pulp and compost food waste. Either through contracting with local growers or composting on site, food waste and some paper products can be turned in to a nutrient rich soil additive and kept out of a landfill.

Case Study: Wholefoods



Tactic 7: Collect used oil and grease. Used fryer oil and other forms of cooking grease are a valuable commodity to biodiesel and rendering firms.

Tactic 8: Reclaim water for cleaning practices.

Rather than dumping water from the steam table down the drain, it can easily be used to wipe down countertops at the end of the night.

Another opportunity is to save unconsumed water for landscape irrigation.

Tactic 9: Use reusable cleaning cloths and napkins. Since most single-use cleaning towels end up in a landfill, it makes financial and environmental sense to use products that be easily cleaned and reused.

Tactic 10: Replace styrofoam and plastic disposables. All plastic takeout and disposable items have biodegradable and compostable counterparts.

Austin: Program Opportunities



Bad news first.

Austin does not have a composting infrastructure like San Francisco's Green Cart Program - YET.



The good news.

1. Opportunity is up for grabs.
2. Identify local farms, programs. I.e. worm or pig farms
3. Waste-to-Resource networks - Austin Refuel



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Program Opportunities

Waste-to-Resource Networks





COLLECT

The collection objective at Austin Refuel is to create alliances with restaurants and facility managers that are committed to greening their operations by recycling their used cooking oil with a collection company that will oversee the entire repurposing process of the used grease. We don't just collect the grease and pass it off to a third party company, like many other collection services. We are the collector, the recycler and the distributor. This ensures the used cooking oil has truly been repurposed into pure biodiesel, a clean burning alternative fuel that will help us achieve energy independence.

To begin, Austin Refuel will provide you with the appropriate storage tanks to dispose of the used grease. Our logistics team will then coordinate convenient collection times between your staff and our fleet. During pick up we'll use grease pumps, leaving your grease depository area clean. The used cooking oil will then be transferred directly to the ReFuel facility in Austin, TX where it will undergo processing.

REPURPOSE

The best part is that our collection service is free! Gone are the days of waste, in are the days of resourcing. This means that our reliable, friendly and clean service collects grease from your facilities without any costs; in fact, you get paid. During each pick-up, Austin Refuel will calculate the amount collected from your facility and in return compensate you for every gallon.

By providing a regional facility, the CO2 emissions created in collection and distribution are minimized, yielding a partner that is aware and respectful of its carbon footprint.

REFUEL

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Our Future?



AUSTIN
refuel

Conclusion:

1. The Drivers
2. Identify and/or Innovate

Questions/Comments:

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