

THE COOP'S TRASH

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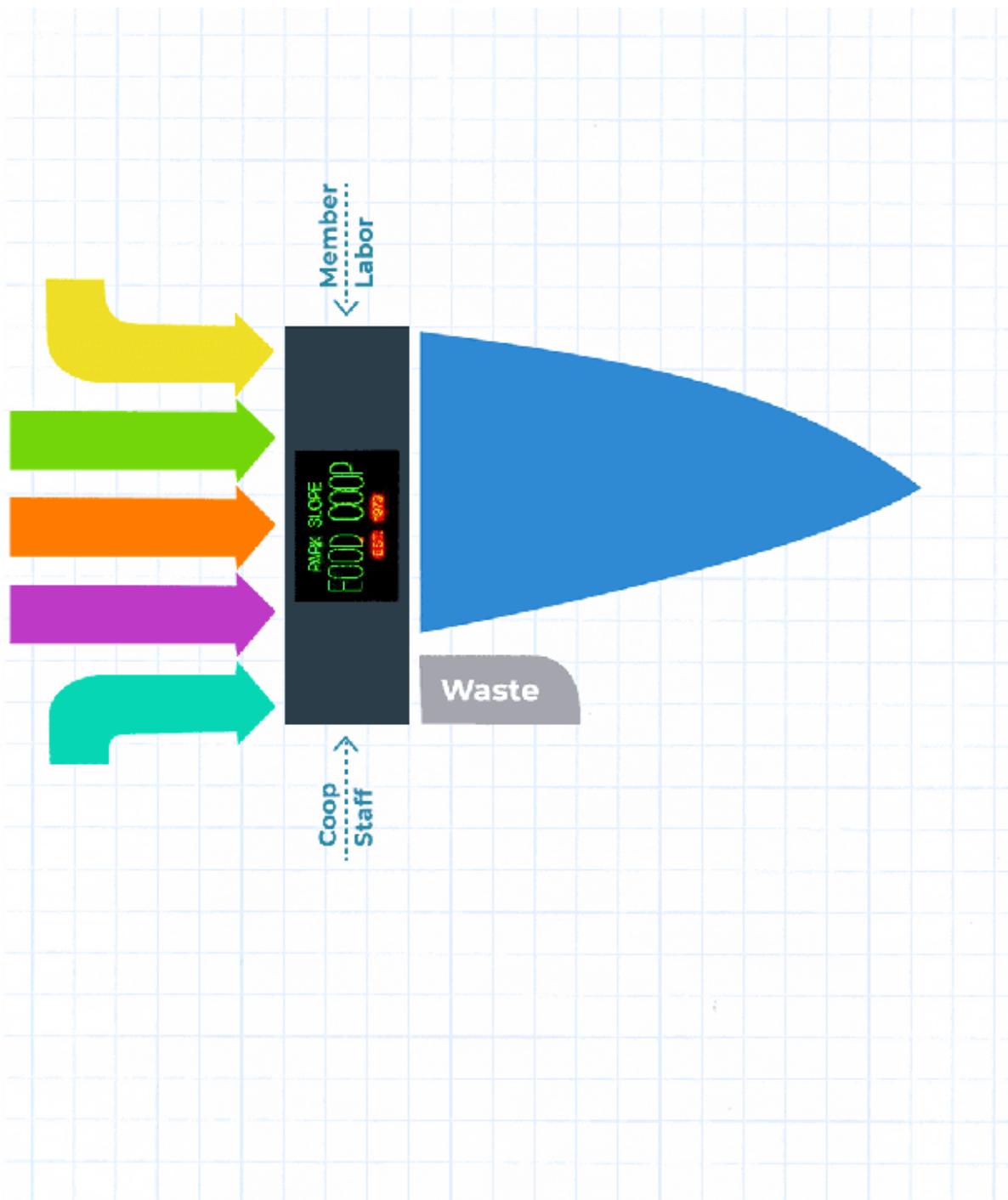


ILLUSTRATION BY CATY BARTHOLOMEW

By Dan Bergsagel

Trash—or, rather, waste—is inevitable at a food store. For example, waste is generated as large cases of goods are received and unpacked and if vegetables and fruit are damaged during their handling and sales. While the Park Slope Food Coop is a mem-

ber-owned and operated food store, it is still a food store: The Coop generates waste too.

Waste is a particularly thorny challenge for the Coop, which operates in an impressively space-efficient way (four times more space-efficient than the best-performing conventional supermarkets), leaving no excess space for waste within its dense urban footprint. The members working in what is known as the baler room, where they're constantly compressing waste into neat cubes, are testament to this Sisyphean task of minimizing and controlling the Coop's waste.

But *what* types of waste does the Coop manage, and *how* does the Coop manage this waste so successfully? To understand this better, for each type of Coop waste—ranging from cardboard boxes to food waste scraps—we should try and answer the following three questions: 1) How much of this type of waste does the Coop manage? 2) Who takes the waste? and 3) How often do they take it?

To answer these questions, I sought the expert input of General Coordinator Elinoar Astrinsky and her information from the Coop's waste management contracts. Where information was still hard to confirm, I conducted my own observations and cobbled together some back-of-the-envelope calculations. Together we can present an overview of the Coop's total waste streams, and further categorize this into waste that is reused, recycled, composted or disposed of in landfill. These values should be seen as estimates to help us understand the total magnitude of waste and the relative contributions of each waste stream.

CARDBOARD

The largest Coop waste stream is cardboard at an estimated 66% of the Coop's total waste measured by mass. Cardboard boxes are ubiquitous in facilitating freight transportation of food items from our suppliers to the Coop and also for packaging items for display on our shelves. Cardboard is collected in two large, wheeled containers in the baler room, and is regularly compressed using a pneumatic baling machine that

produces neat cardboard cubes that are tied up with wire.

WHEN RECYCLED CARDBOARD VALUES ARE AT THEIR LOWEST, DISPOSING OF THE BALES CAN ALMOST BECOME A FINANCIAL BURDEN.



Bales of cardboard outside the Coop

Observing the number of bales outside, the Coop produces an estimated 10 medium cardboard bales per day, each weighing 350 lbs on average. The cardboard bales are stored outside the Coop, west of the main entrance, and are collected daily through the Coop's contract with Metropolitan Recycling. These cardboard bales have recycling value as a raw input for paper mills and are typically auctioned for resale. The value of waste cardboard has fluctuated significantly over recent years, from highs of \$200/ton to lows of \$20/ton. When recycled cardboard values are at their lowest, disposing of the bales can almost become a financial burden to the haulers. When recycled cardboard values are at their peak, waste haulers can use their projected income from the cardboard resale to offset their other hauling costs. To protect this valuable

commodity from being collected by the city's late-night cardboard pirates, the Coop built a lockable cage in which the bales are stored—also known as the “bale jail.”

WAXED CARDBOARD

Cardboard is a multifunctional packaging product, but it has an Achilles' heel: It is not moisture resistant. For fresh produce that requires ice or protection from external changes in humidity, waxed cardboard boxes are typically used. These have the advantage of reducing food waste, although the name is a little misleading—the “wax” is actually a polyethylene coating applied to the cardboard. Compared to conventional cardboard packaging, waxed cardboard is contaminated and typically unsuitable for being recycled as fiber for other paper products.

Waxed cardboard at the Coop is estimated at two bales per day, approximately 13% of the Coop's total waste measured by mass. Waxed cardboard boxes are temporarily stored in the front of the baler room, separate from other cardboard waste. It is also collected by *Metropolitan Recycling* and is disposed of in landfill.

TRASH

Not all waste can be segregated and reused, recycled, or composted. In addition to the waxed cardboard waste stream, the Coop has a two cubic yard dumpster that Metropolitan Recycling removes six times per week. This dumpster sits outside the front of the Coop, discreetly camouflaged as a wooden shed. The waste stored in this dumpster is estimated at approximately 6% of the Coop's total waste measured by mass. However, the removal cost of this dumpster to the landfill constitutes around 60% of the Coop's total on-site waste-management costs. Landfill costs are directly related to the tipping fees paid at the landfill facility, paid by anyone who disposes of waste in a landfill. Typically this fee is based on the weight of waste per ton. These fees are highest in areas of the country where real estate is expensive and where state governments set them higher in order to incentivize alternative waste-management practices.



PHOTO BY MICHAEL BERMAN

Stacked milk crates in the Coop's backyard

CUSTOM CONTAINERS

Much of the Coop's food is provided in produce or milk crates. These are estimated to contribute approximately 5% of the Coop's total waste measured by mass. This waste stream is a closed cycle, as these crates are collected on site and returned to the distributors for reuse. These containers are stored in many different places in the Coop—such as the backyard, the dairy fridge, and across the basement—and are placed on pallets for return to the original food-distribution source, such as Hepworth Farms or Ithaca Dairy.

These specialized food containers take up significantly more volume on site than the food waste, since they are not squishy and malleable. Due to their storage in many locations throughout the Coop, their estimated volume averages three pallets worth daily.

FOOD WASTE

Our vegetable and fruit waste, at approximately 4% of the Coop's total waste measured by mass, is a frequently handled waste stream. Food waste at the Coop has been discussed in previous *Linewaiters' Gazette* articles, such as *Are Biodigesters the Next Frontier in Food Waste?*, and *PSFC Helps Soup Kitchen Feed Hundreds of Migrants*. Before food becomes waste, the Coop donates edible but unsalable food to CHiPS Soup Kitchen. The remaining quantity of food waste varies depending on the time of year, with larger quantities of waste produced in summer than in winter. Food waste is stored in bins in the slim backyard behind the Coop, which is accessed by a door between the two cheese cases.

ON AVERAGE, THE COOP'S FOOD WASTE IS ESTIMATED AT THREE 65-GALLON BINS PER WEEK, WITH EACH BIN WEIGHING 487 LBS.

The Compost Committee hauls the bins to local community gardens for conversion into compost. A local waste firm, Mr T Carting, collects and composts some of it. On average, the Coop's food waste is estimated at three 65-gallon bins per week—two bins per week in winter and four per week in summer—with each bin weighing 487 lbs.

PLASTICS

Plastics are a crucial part of the food-distribution supply chain, whether used as plastic wrap to contain and protect palletized products or as corrugated-plastic distribution boxes. Plastic is collected for recycling in clear bags and stored on racks in the Coop's backyard. In their uncompacted state, these bags can occupy an approximately 6-foot wide by 10-foot high by 20-foot long space at the end of the yard, and they are collected weekly to produce approximately two compacted bales. These plastic bales contribute 4% of the Coop's total waste measured by mass and are collected by Metropolitan Recycling.

PALLETS

A small additional waste stream is that of surplus wooden pallets, at an estimated 1% of the Coop's total waste measured by mass. Many items are delivered on wooden pallets, the vast majority of which are returned immediately to the food distributors so that they can be reused for future deliveries. These immediately returned pallets are not considered part of the waste stream.

However, the return process occasionally involves leaving retained pallets unsupervised outside the Coop for collection. We can estimate that ten wooden pallets, each weighing approximately 40 lbs, are left each evening for collection by the food-distribution companies. We believe these pallets are occasionally not collected by the intended distributors, but instead by 'independent' collectors. Either way, the pallets are efficiently removed from the Coop site.

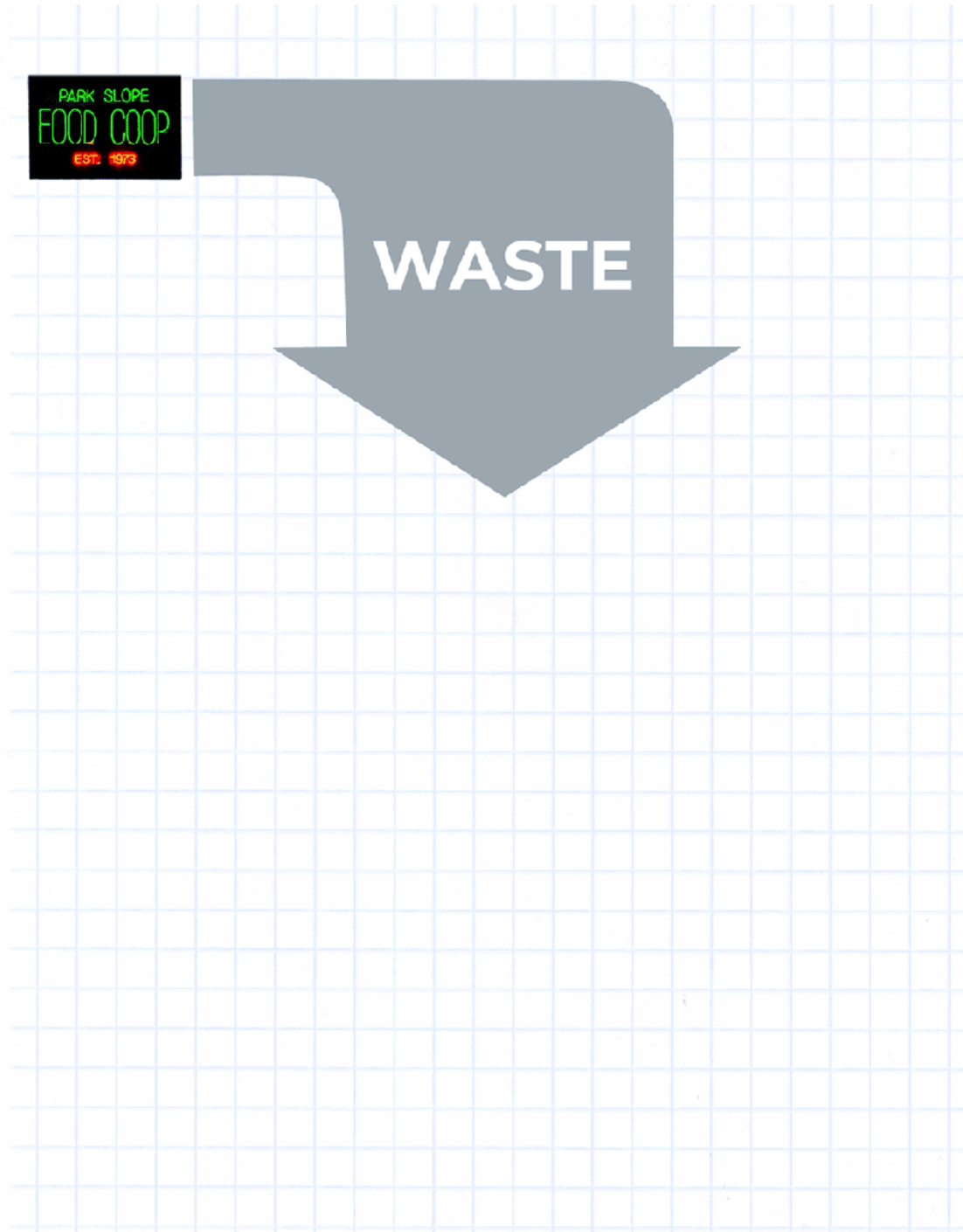


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DOMESTIC RECYCLING

In addition to these clearly defined waste streams, the Coop also collects a small amount of mixed recycling, such as beverage cans and plastic bottles, and some food delivery containers, such as olive buckets. This gathered waste resides on the second floor outside the membership office and is collected on a bi-weekly basis by Metropolitan Recycling. It is estimated to constitute approximately 1% of the Coop's total

waste measured by mass.

PAPER

Like any business, the Coop also requires administrative inputs to enable the system to function—such as the cashiers, membership office, and buyers' and coordinators' offices—which produce residual paper waste. An estimated up to 96 gallons of paper is stored in the second-floor copy room and collected by PROSHRED every two weeks. Assuming that loose office paper has a density of 320 lbs per cubic yard, one 96-gallon paper bin weighs 150 lbs. This paper waste stream constitutes approximately 0.2% of the Coop's total waste measured by mass. The paper waste stream is the smallest at the Coop and has already been reduced significantly in the last two years, since the digitization of all member services.

THE EXISTING WASTE MANAGEMENT SYSTEM SEEMS ENCOURAGING: BY MASS, 71% IS RECYCLED, 6% IS REUSED, 4% IS COMPOSTED, AND 19% IS DISPOSED OF IN LANDFILL.

With all these waste streams combined, the Coop's total waste production is estimated at 5,300 lbs per day. Is this a little or a lot compared to the food that is being processed through the system and sold to members? If we assume that the Coop's sales are approximately \$1 million per week, and we apply an 'average food value' of \$3.5/lb (a value based on conventional US food stores), then this leads to just over 40,800 lbs of food being sold by the Coop each day. This suggests that approximately every 7 or 8 lbs of food processed by the Coop generates 1 lb of waste.

When we look more deeply at the end of life of each of the Coop waste streams, the Coop's existing waste management system seems encouraging: by mass, 71% is recycled, 6% is reused, 4% is composted and 19% is disposed of in landfill. Reusing, recycling and composting are well-received, best-practice waste management strategies;

only 1 lb of Coop waste is landfilled for every 40 lbs of food sold.

Circular economy principles encourage us to minimize the steps required to process waste so we can best take advantage of its intrinsic value without energy-intensive re-processing and any consequent impacts on the environment. Can the Coop further improve on the current waste management scenario within the spatial constraints of its site, maximizing material reuse?

Improving waste outcomes is not something that the Coop can do unilaterally. The sources of the largest waste streams to landfill and recycling by mass—waxed cardboard and regular cardboard, respectively—could feasibly be changed to reusable containers. However, this would require coordination with suppliers as part of a potentially larger systemic change in the industry.

The most expensive waste stream for the Coop to dispose of—trash in the dumpster—already constitutes a small percentage of the Coop's waste by mass. Improving on the current status quo may be hard. This dumpster currently contains miscellaneous waste from trash cans on the shop floor as well as debris from necessary maintenance and repairs. This maintenance and repair debris can include items ranging from small damaged lighting fixtures and ceiling tiles to large broken pop-up shading canopies. If the Coop had more space for waste, we could perhaps further segregate these trash streams to allow for longer-term collection of enough material from a single waste stream, such as plasterboard or aluminum studs. However, unless the opening between the Coop and 774 Union Street becomes part of an expanded Coop footprint, searching for this additional space may be a waste of time.