Reusable Foodware In Schools

A QUICK START GUIDE FOR NUTRITION DIRECTORS

A growing number of K-12 schools in the US are switching from disposable to reusable foodware to serve school meals, driven by concerns about single-use plastics, the enormous amount of waste generated and the widespread use of toxic chemicals like PFAS and styrene in common disposable foodware.

Prone to migrating into food, these chemicals are of particular concern to children's health, making a transition to safe, reusable foodware in schools more urgent. In addition, making reusables part of school routines teaches and normalizes waste reducing behaviors, fostering lifelong habits.

This guide gives a high-level overview of the steps and decisions needed to transition to reusable foodware, **with an emphasis on the financial considerations**.

KEY DECISION: YOUR DISHWASHING MODEL

When evaluating a transition to reusable foodware for your school or district, begin by considering which wash model will work best, as dishwashing infrastructure is often the biggest driver of cost.

Onsite Model: By far the most common, the onsite model requires each participating schools to have their own dishwashing machines and staff to wash their reusable foodware. This model is most cost competitive when adequate dish machines already exist. It is also the most resilient as potential problems at one school don't affect the whole system.

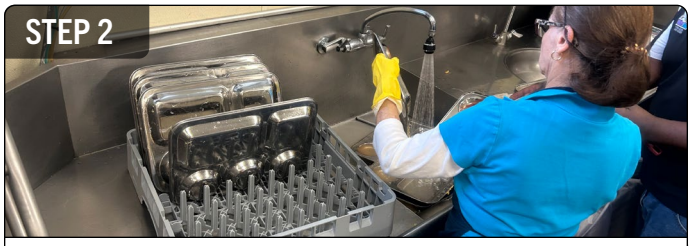
Centralized Model: With a commercial dishwasher at a central location, staff collect used foodware from participating schools, wash it, and return it to each campus. This model can work well for districts with central kitchens, as dishes can be picked up on return trips without added staff or vehicles.

Off-site Model: A district hires a third-party service to collect used foodware, wash it off-site, and return it to schools. Though dependent on local availability and typically more expensive, this model supports reuse where installing new dishwashers isn't feasible and allows districts to pilot the transition before fully committing.

SETTING UP A REUSABLE FOODWARE PROGRAM

BUILDING SUPPORT & BASELINE ASSESSMENT

- **Identify and engage key partners and stakeholders**, including administrators, kitchen staff, custodians, teachers, students and families.
- **Assess your current situation:** How many meals do you serve daily? What kind of foodware is used and what is the cost? Does your kitchen have, or could it accommodate a dish machine? Are there staff available?



CREATE A BUDGET & SCHEDULE

- **Choose the** wash model best suited to you.
- Prepare a budget including one-time purchases as well as ongoing costs and potential savings.
- **Create a schedule** for implementation, including procurement, dish machine installation, staff training, launch, etc.

PROCUREMENT & SETUP

- **Make kitchen renovations** as needed.
- **Purchase and install your selected dishwashing machine** and equipment.
- **Purchase your selected foodware**.
- **Set up your system**, including signage, dish return stations, etc.
- **Define SOPs**: collection/transport of used foodware, cleaning, storage/redistribution of clean foodware, etc.

LAUNCH & TRAINING

- **Announce the change to the school community**, leveraging the stakeholders engaged in step 1.
- **Train staff and students** (green teams, ambassadors) and practice routines.
- **Actively monitor progress**, collect data and make adjustments as needed.

The steps presented are based on the "Ditching Disposables" Toolkit, a detailed planning guide created by the Center for Environmental Health.

CREATING A BUDGET: SAMPLE COST SCENARIO

The table below shows costs and savings for a typical transition from disposable to reusable foodware. Additional details on each cost/savings category are available in the following section. Assumptions:

- Single school in Alameda County, CA, serving 300 meals/day, 5x/week, 180 days/year, for a total of 54,000 meals/year.
- Replacing disposable fiber trays and plastic spork packets with reusable stainless steel trays and forks.
- On-site wash model, door-type dishwasher, no kitchen remodeling needed.

Item	Details	Approximate Costs/Savings	Notes
Upfront (One-Time) Costs			
Dishwashing machine	Door-type, high temp, 40 racks per hour. Cost includes installation.	$26,000	Each rack fits 13 trays or 50 utensils, resulting in 30 racks needed for 300 sets of dishes.
Dish Room Support Equipment	6 dish racks, 1 dish rack shelf, 1 dish rack dolly, 4 flatware baskets, 2 utensil organizers, 1 floor mat, 3 dishwashing aprons, 1 dish drying rack	$2,171*	
Collection Station Equipment	1 dish cart, 3 bus tubs	$143*	Cost does not include collection station signage (recommended).
Stainless-steel Reusable Foodware	345 each: trays @ $8.85, forks @ $0.36, spoons @ $0.28	$3,274*	Buy approximately 15% more foodware than meals served.
Total upfront costs		**$31,588**	
Ongoing Annual Costs			
Dish machine repair & maintenance	Average cost of one service/repair call per year	$374	
Additional Labor	Nutrition Service Assistant, 1 hr/day, 180 days	$3,150	Based on estimate of $17.50/hr
Dish machine chemicals	Detergent, Drying agent	$541*	
Utilities		$550	Based on average US (water) and CA (electricity) rates in 2025.
Foodware replacements	12 trays, 100 utensils	$142	
Total annual costs		**$4,757**	
Ongoing Annual Savings			
Avoided purchases of disposable foodware	Plastic spork kits @$0.02, molded fiber trays @$0.08, 54,000 meals/yr	$5,400	
Reduced waste hauling costs	1 cy/week reduction in garbage volume.	$480	Based on 2025 Fremont Unified School District collection rates.
Total annual savings		**$5,880**	

* Cost based on Procurement Guide.

CREATING A BUDGET: CONSIDERATIONS

Costs are typically the biggest barrier for schools considering a transition from disposable to reusable foodware. Generally, the overall cost scenario is more favorable if:

- An onsite or centralized wash model is chosen over an off-site model.
- Adequate dishwashing machines and equipment exist before the transition.
- Little to no kitchen renovations/upgrades are needed.
- Existing labor can handle washing operations.
- Costs of (currently used) disposable foodware is high.
- Reduced waste generation leads to savings on the garbage bill.

UPFRONT (ONE-TIME) COSTS

KITCHEN RENOVATIONS

If switching to reusable foodware requires a new dish washing machine, be sure to budget for any electrical, plumbing, wastewater, and other upgrades needed, as well as installation.

DISHWASHING MACHINE(S)

The number of lunches served per day as well as available kitchen space (for dish machine *plus drying dishes*) will determine the best type of dish machine for your needs.

Dish machine type	Best suited for:	Dish racks per hour*	Space needed	Approx price (2025)
Undercounter	Small elementary schools < **150 lunches/day**	20-35	25 sq. ft.	$2,500-$8,000
Door	Most elementary, middle, and high schools. Could serve multiple schools. **100-800 lunches/day**	40-60	100 sq. ft.	$10,000-$20,000 (Ventless models approx. $25,000)
Conveyor	Multiple schools using a centralized wash model. **800+ lunches/day**	200-300	150 sq. ft.	$30,000-$60,000

* A typical dish rack holds 13 trays, 25 cups or 50 utensils.

DISHWASHING EQUIPMENT

- **Bus tubs and dish carts** to collect and transfer dirty dishes.
- **Dish and utensil racks** to load dishes into the machine.
- **Carts and dollies** to store and move the racks.
- **Drying racks** to dry/store the washed foodware.

Consult the Procurement Guide for more guidance.

REUSABLE FOODWARE

Commercially available reusable foodware includes trays, cups, bowls, plates and utensils made from stainless steel or durable plastics. From a human and environmental health perspective, reusable foodware made from stainless steel is preferable over plastic which can leach chemicals into food.

Visit GreenScreen® for Safer Chemicals for foodware evaluations and certified products.

Typical disposable foodware includes plastic-coated paper boats, fiber or foam trays, plastic utensils, milk cartons and individually plastic-wrapped food items.

Preferable reusable foodware includes stainless-steel trays, utensils and cups. The tray's compartments eliminate single-serve packaging.

Stainless Steel Reusable Foodware Pricing (2025)

Item	Trays	Cups	Utensils	Bowl	Plate
Approx. cost	$8.85 each	$4 each	$0.36 each	$5 each	$5 each

- Consult the Procurement Guide for more guidance on costs and suggested quantities.
- Schools transitioning to plastic-free dining can get up to 100% subsidies for reusable foodware from nonprofit Plastic Free Restaurants.

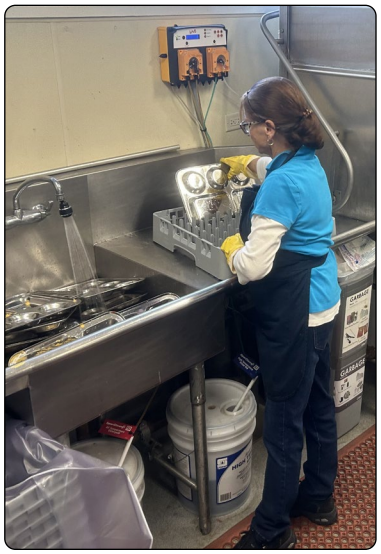
SCHOOL SPOTLIGHT: CRAGMONT ELEMENTARY IN BERKELEY, CA

Cragmont Elementary School in the Berkeley Unified School District serves 155 lunches each day, 180 days a year. They replaced disposable molded fiber trays, plastic spork packets and paper cups with stainless steel trays, forks and cups. The reusable foodware, purchased partially with a grant from StopWaste, is washed in Cragmont's existing on-site dish washing machine, with minimal additional labor. The change prevents 100,000 single-use items and saves the school $500 annually in avoided foodware purchases and reduced waste collection costs.

ONGOING COSTS

LABOR

Additional labor will be needed to handle the dishes and operate the washing machine. However, many schools switched to reusables and managed labor costs by optimizing workflow and using existing staff time. For example, in schools with consecutive lunch periods, kitchen teams could wash dishes from the previous meal during slower moments while students were eating.



OPTIONAL: DISHWASHING MACHINE MAINTENANCE & REPAIRS

For new dish machine purchases, consider an extended warranty or entering into a service agreement. You can also lease a dish machine, which typically includes service.

Tip: Keep a month's worth of single-use items on hand as a back-up should your dish machine be out of service for maintenance or repairs.

DISHWASHING CHEMICALS

Your projected annual costs for dishwashing detergent, rinse aids and other chemicals such as sanitizers for low temperature dish machines depends on your dish machine and the expected number of wash cycles. If possible, select Safer Choice certified products. Consult the Procurement Guide for more guidance.

UTILITIES

Water and electricity costs may vary widely by location. They also depend on the type of dish machine and wash cycles needed. Select an Energy Star certified dish machine model with a capacity that matches the scale of your operation to minimize utility expenses.

REPLACEMENT OF LOST FOODWARE

With regular outreach and good sorting practices, schools can get per day return rates of reusable foodware close to 100%. Still, some loss is likely, and a school serving about 300 lunches per day can expect to lose roughly a dozen trays and about 100 utensils per year.

ONGOING SAVINGS

AVOIDED PURCHASE OF DISPOSABLE FOODWARE

The biggest cost savings come from single-use foodware that no longer needs to be purchased. Naturally, replacing higher-end disposables, such as certified compostable foodware, will bring greater savings than low-cost disposables such as plastic utensils and polystyrene trays.

REDUCED DISPOSAL COSTS

Eliminating disposable foodware can reduce the volume of discards by roughly ½ to 1 cubic yard per week for a school serving about 300 lunches a day.

RESOURCES

- "Ditching Disposables" Toolkit
  Detailed planning guide created by the Center for Environmental Health
- Procurement Guide
  Estimated costs for reusable foodware, dishwashing equipment and chemicals
- StopWaste Schools Program
  Resources for waste prevention in K-12 schools in Alameda County
- GreenScreen for Safer Chemicals
  Foodware material evaluations and certified product lists.
- Plastic Free Restaurants
  Potential funding source for reusable foodware

CONTACT

For questions, feedback or to request support with a transition from disposable to reusable foodware at a school in Alameda County, email Ben Duggan at bduggan@stopwaste.org.

Special thanks to the Center for Environmental Health and Rethink Disposable for their invaluable contributions to this guide.