

ReThink Disposable Institution Case Study: **Palo Alto Unified** **School District**

December 2019

Palo Alto Unified successfully transitions single-use foodware to reusable in 12 elementary schools using a central kitchen distribution model earning an annual net savings of \$25,000.



INSTITUTION PROFILE:

Name:

Palo Alto Unified
School District

Location: Palo Alto, CA

Student Population:
12,000

Food Vendor:
Sodexo

Food Services:
Breakfast and Lunch

Length of School Year:
41 weeks/180 school days

Ware Washing:
Dishwasher at Central
Kitchen

Employees:
Full kitchen staff, custodians,
part-time food delivery
drivers

The Palo Alto Unified
School District (PAUSD) is
comprised of 12 elementary
schools, three middle
schools, and two high
schools.

The average daily participa-
tion in school meals at the
elementary schools is 400
students for breakfast and
3,400 students for lunch.
All food is prepared and
distributed from two central
kitchens.

Introduction

It all began with a spark of interest in January 2019.

Fast forward to the start of the 2019 school year — Palo Alto Unified School District (PAUSD) accomplished the incredible feat of phasing out seven single-use foodware items used for breakfast and lunch across all 12 of their elementary schools, serving an upwards of 3,400

students. But it wasn't free. The purchase of reusable baskets, stainless steel sporks, durable clamshells, plus a few other infrastructure updates cost the district \$22,831. The District also hired two new part-time employees — a dishwasher and a van driver — at an annual cost of \$27,000. Even with the initial investment of \$49,831

to set up and maintain the new

reusable food ware operation, Palo Alto Unified School District still earned an impressive savings of \$25,000 per year, after an average five-month payback period.

This effort was made possible by a vigorous team from members of the Board, administrators, teachers, food service staff, and the students. Palo Alto Unified partnered with Clean Water Fund's **ReThink Disposable** program to quantify the impact of their upstream source reduction pilot project to transition disposable to reusable foodware at 12 elementary schools over the 2019-2020 school year. The pilot was successful. It proves that the cost of maintaining a food system in schools that relies on daily use and disposal of foodware items is more expensive than developing and deploying a reusable foodware operation, even when accounting for the setup and ongoing costs (reusable product ware and reusable collection stations, and additional labor and washing costs).

Every year, the school district will eliminate 436,540 pieces of single-use foodware and over 8,000 pounds of waste, earning an annual net savings of \$25,000.

Implementation Timeline

June 24, 2019

City Council passes an ordinance prohibiting city facilities and food vendors from distributing single-use plastic straws, utensils and stirrers starting January 1, 2020. Staff briefs PAUSD's Board of Education. Even though not affected by the ordinance, the District decides to set an example and model the "right behavior" for students, staff, and parents.



June – August 2019

PAUSD staff develops a reusable foodware cost-benefit analysis and implementation plan for School Board approval. Once approved, Food Services selects and orders reusable foodware and infrastructure to distribute to the school sites.

August 2019

PAUSD fills two new positions prior to the school year to support the new reusable foodware program, and trains custodians and food service employees. PAUSD partners with "Zero Waste Champions" to launch an educational campaign for students and teachers in preparation for the transition.



September 3, 2019

Reusable foodware in use across all twelve PAUSD elementary school sites.

October – November 2019

Monitor, track, and quantify the impact of the reusable foodware pilot, "Phase One." Gather information and data to support project analysis, such as disposable foodware procurement data, waste hauling impact, photos, and interviews with key staff.



December 2019

Pilot "Phase Two"— Eliminate plastic wrap on produce and plastic sauce cups and lids are replaced with reusable stainless steel side sauce cups. Pilot at one school for Health Department approval.

January 2020

Reduced trash services begin at eight elementary schools. Monitor and confirm ongoing reduction of materials in the Compost Bin.



March 2020

Reduced organics services begin at eight elementary schools.





New Reusable Foodware

- Plastic baskets with compostable liners are used to serve pizza, Bosco sticks, hamburgers, and other warm items
- Stainless steel sporks
- Salads and sandwiches are served in reusable plastic clamshells

“We were worried that kids would throw away baskets. But our students said, ‘Why would we throw these away? They are obviously not trash!’”

Rebecca Navarro,
Sustainability Program Manager,
PAUSD

Highlights

- 12 elementary schools district-wide serving 3,400 students daily
- Central kitchen preparation and distribution model is adapted for the collection, return, washing and storage of new reusable foodware
- 7 foodware items transition to reusable
- \$25,000 in annual *net* cost savings*
- 436,540 pieces of disposable packaging eliminated every year
- 8,152 pounds of waste prevented every year
- Two new jobs created to carryout reusable food operations

*Net Cost Impact considers any upfront and ongoing costs associated with the purchase and care of reusable items and capital improvements needed to carry out ReThink Disposable's recommendations.

Road to Reusables

1



STOP 1

5:30 am

Lunches assembled in reusable plastic Whirley clamshells, put on speed racks, and stored in walk-in refrigerator.



3

STOP 3

10:00 am

Van drivers will pull hot and cold entrees per site and set up the trucks to leave.

2

STOP 2

8:30 am

Food service van drivers pack up fruits and vegetables for each school while lunch counts arrive from school clerks, usually by 9:00 am.



4

STOP 4

Lunchtime!

Students line up to pick up their pre-ordered lunch (either hot or cold).



Hot Lunch: Pick up a red reusable plastic basket, grab a fruit, milk, and stainless steel spork

Cold Lunch: Pick up a reusable clamshell container

Collection carts are rolled out from multipurpose room and put around blacktop and seating areas, for students to return their used clamshells, sporks, and baskets.



6



STOP 6

1:30 pm

Van drivers arrive back at central kitchens with dirties for washing.

5

STOP 5

12:30 pm

After lunch, collection carts are rolled back to multipurpose area and food service staff collect everything in one cart. Van drivers circle back to schools to pick up used clamshells, baskets, and sporks to return to the central kitchen for washing.



Results

Disposable Product Replaced or Minimized	Practice Implemented	Percent Disposable Reduction	Annual Quantity of Disposable Items Eliminated	Payback Period (months)	Annual NET Cost Savings After Payback Period (\$)	Annual Waste Reduction (lbs.)
#5 Plaid Food Tray	Red baskets	92%	149,500	2.4	\$5,644.16	1,450
#3 Plaid Food Tray	Red baskets	11%	8,000	32.7	\$416.16	89
Plastic Heavy Weight Spoon	Stainless steel sporks	100%	35,000	23.3	\$942.55	65
Plastic Heavy Weight Fork	Stainless steel sporks	100%	31,000	26.4	\$834.83	248
8x9x3 Hinged Container	Whirley reusable clamshells	100%	5,000	16	\$1,363.50	500
Plastic Sporks	Stainless steel sporks	100%	157,440	4.2	\$5,249.64	763
Plastic Container w/ Lid	Whirley reusable clamshells	100%	39,600	1.7	\$13,050.18	4,950
Plain Foil Sandwich Bag	Whirley reusable clamshells	100%	11,000	41.7	\$522.17	88
Other Products to Support Changes	Bus tubs, carts, drying racks, etc.	-	-	-	-\$8,476.96*	-
Labor	1 van driver and 1 dishwasher	-	-	-	-\$27,000	-
Waste Hauling	Trash + compost	-	-	-	\$23,976.96	-
*One-time infrastructure setup cost only affecting year one's savings.	TOTALS:	AVERAGE % Reduction of targeted foodware: 88%	TOTAL # Reduced: 436,540 pieces	AVERAGE Payback Period: 5 months	TOTAL Net Savings: \$16,523.19 year one, and \$25,000.15 year two and beyond	TOTAL Waste Reduction: 8,152 lbs.

“I noticed after the switch that students were pausing to sort much more thoughtfully, and the lunch supervisors were also providing a lot more guidance on this topic, than before. I saw that the waste streams were significantly cleaner at the sites where all of these variables were similarly replicated.” — Rebecca Navarro, Sustainability Program Manager, PAUSD



Waste Impacts: The district's hauler, GreenWaste, holds the contract to manage all hauling services for 10 of the 12 elementary schools at PAUSD. GreenWaste partnered closely with PAUSD to monitor the impact of the reusable foodware pilot on the volume of trash and compostable materials generated at each school site. GreenWaste staff reported that after a visual check of ten of the schools on the day before pickup, the external trash bins were 75% full and the compost/organics bins were 65% full. They were supportive of a change in contract to reduce the trash at eight* schools from 4 cubic yards (CY) a week to 3 CY a week. This change will lead to a \$144.21 per month savings per school for trash. Additionally, the 3 CY compost bins can be brought down to 2 CY saving them \$105.55 per month per school. The district will follow through with the hauler to request the reduced trash service rollout in January 2020 and monitor the compost for two additional months and deploy new bins with reduced compost service in March 2020.



Before:
Overflowing
organics bin.



After:
Reusable
pilot project
reduces
volume of the
organics bin
by 45%.

*Two schools did not achieve measurable reductions in trash and compost at this time and will require further monitoring.

Set-up Costs: Reusable Foodware and Infrastructure

Item	What is the item used for?	Number of items purchased
Plastic Red Baskets	Hot Entrees and Pizza	3,600
Stainless Steel Sporks	Dining	3,000
Clamshells	Cold Entrees	2,500
Black Carts	Reusable Collection	53
Cutlery Bin	Reusable Collection	106
Red Bus Tubs	Reusable Collection	159
6-Hole Silverware Display	Stainless Spork Holders	12
Flatware Cylinder	Holders for Silverware	100
Dish Trays	Camracks for Washing	14
Flatware Cylinder Racks	Silverware Washing Racks	2
Red Basket Tub Trucks 500 lb	Used Product Collection	2
Mobile Drying Racks	Drying Area	3
Total Upfront Investment: \$22,831		

Plans for Additional Source Reduction

The Health Department requires PAUSD to take steps to prevent cross-contamination. To meet these standards, fruit is individually packaged in plastic wrap and salads and side dishes are packaged in single-use plastic sauce cups with plastic lids. PAUSD aims to eliminate these three additional single-use plastic packaging items. The Nutrition Services Supervisor for the District is working with the Health Department on a process that eliminates these three items while still preventing cross-contamination. PAUSD is proposing to eliminate plastic wrap from fruit and vegetables by serving the food on a half-sheet with tongs. PAUSD also plans to eliminate single-use plastic sauce cups and lids by replacing them with stainless steel cups.

Update: After piloting the cross-contamination free process for fruits and side dishes with no packaging at El Carmelo Elementary School, the District is proud to report that they received Health Department approval and plans to roll-out this protocol at all sites in 2020. Additionally, the District plans to conduct a detailed audit over the 2019-2020 winter-break to calculate if there was any product loss.



Closing

This case study serves as a model for other school districts considering phasing out toxic, costly, and wasteful single-use foodware so commonplace in daily school food service. These impressive results and detailed process shared is wholly transferable to other school districts and academic institutions, and most importantly, quantitatively demonstrates that eliminating single-use disposable food packaging is not only better for the environment and the health of our students, but also improves the District's bottom line. The only way forward is a packaging-free school food program. It's the "right thing to do," models reuse for young students, and is cost beneficial.

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ReThink Disposable, a project of the national non-profits Clean Water Action and Clean Water Fund, advocates for aggressive policies and implements innovative programs to end the use of disposable foodware so commonplace in the food service industry. Our mission is to catalyze a culture of reuse that protects people and the planet and improves business's bottom line. By partnering with local government agencies, and businesses and institutions, ReThink Disposable staff engages food business operators to identify and deploy cost-saving recommendations that transition their operations from single-use to reusable. Staff provides technical assistance to participants and measures the impact of our source reduction recommendations. To learn more about our program, review exciting case studies and results, and see our partners, please visit us at www.rethinkdisposable.org or reach us at rethinkdisposable@cleanwater.org.



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