



FOOD SCRAP RECYCLING PROGRAM

Greenwich Public Schools

School Year 2024-2025

EXECUTIVE SUMMARY

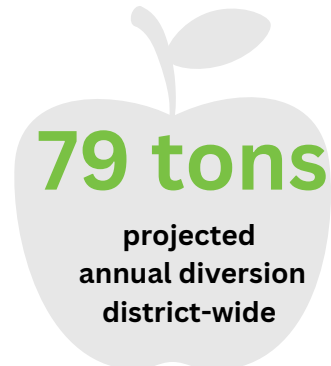
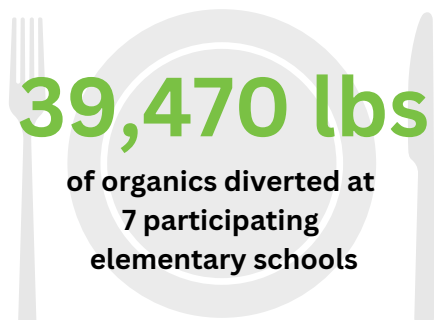
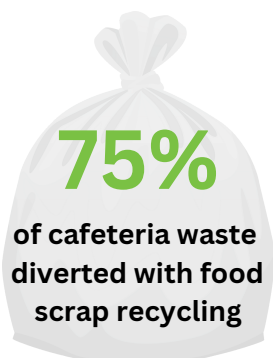
The education sector can lead efforts to reduce waste in the Town of Greenwich, adopting sustainable practices and empowering students to be environmental stewards for the future. Greenwich Public Schools (GPS) is one of the largest generators of municipal solid waste in the Greenwich community. The Zero Waste Schools program, led by GPS Facilities, the PTA Council Green Schools Committee, and Waste Free Greenwich, has proven to be a highly effective strategy for waste reduction in the district. Wasted food composes a significant proportion of the district's waste stream. Food scrap recycling, in conjunction with prevention strategies, share tables and external food donation, has now been adopted at seven elementary schools and is the most successful practice to reduce trash tonnage and to mitigate environmental impacts.

KEY FINDINGS

- **Diversion Success:** The program diverted 39,470 pounds (19.7 tons) of organic material to higher use at participating schools. The average cafeteria waste diversion rate jumped from 45% to 75% with the addition of food scrap recycling.
- **Top Performance:** Cos Cob School, which launched in January 2025, achieved the highest diversion rate in the district at 80.3%.
- **Environmental Impact:** Diverting 39,470 pounds of food scraps prevented the emission of 91 tons of carbon dioxide equivalent and saved the use of 9.1 million gallons of water.
- **Projected Impact:** District-wide implementation is projected to eliminate approximately 157,150 lbs (79 tons) of organic material from the trash annually.

STRATEGIC RECOMMENDATIONS

- **Increase Funding:** Seek additional funding to expand the program to more cafeterias and kitchens, cover the inclusion of BPI certified compostable fiber cafeteria trays and ensure continued success.
- **Reduce Disposable Plastics:** Introduce sustainable alternatives to curb contamination and cut waste, as disposable plastics compose a large portion of the remaining waste stream.
- **Expand Organics Recycling:** Introduce organics recycling in school kitchens to divert considerable organic waste generated back of house.
- **Examine Carting Contracts:** Adjust existing trash contracts to potentially realize cost savings by reducing tonnage, volume, and service frequency, which are lowered by the successful diversion of food scraps.



PROGRAM HISTORY & RATIONALE

An initial pilot of food scrap recycling, implemented at New Lebanon School from January to June 2023, achieved a diversion rate of 75% and eliminated 3,570 lbs of organic material from the waste stream. During the 2023/24 school year, GPS Facilities, the PTA Council Green Schools Committee and the nonprofit Waste Free Greenwich worked collaboratively to expand the program to additional elementary schools - Hamilton Avenue, Julian Curtiss, Old Greenwich, Parkway and Riverside. Approximately 23,350 lbs of food scraps and non-recyclable paper were diverted from incineration to anaerobic digestion, which breaks down organic materials to produce biogas and a nutrient-rich digestate. In January 2025, food scrap recycling was launched at Cos Cob School, which attained an 80% diversion rate, the highest in the district.

In the school year 2024/25, students at the seven participating elementary schools diverted 39,470 lbs, or 19.7 tons, of organic material to higher use. Diversion rates jumped from 45% to 75% on average with the addition of food scrap recycling to existing waste reduction efforts. Organic material composes nearly 40% of the cafeteria waste stream, as calculated during waste audits. It is estimated that during the school year each student generates 18.5 lbs of food scraps. If the program is implemented district wide, approximately 157,150 lbs, or 79 tons, could be eliminated from the trash.

Connecticut's waste management system is at a critical point due to the closure of its largest incinerator and limited disposal capacity. The state is no longer self sufficient and exports 40% of waste to out-of-state landfills and incinerators. Tipping fees are anticipated to rise steadily, significantly impacting municipal budgets. Wasted food, which composes over 22% of municipal solid waste in Connecticut, has harmful impacts on natural resources, climate, public health and the economy. Reduction of wasted food through prevention, donation and diversion is a promising solution, one that can be successfully implemented across Greenwich Public Schools.

PROCEDURES

During lunch, students separate accepted organic waste into a designated green bins lined with a BPI-certified compostable bag. All food scraps, in addition to non-recyclable paper products like napkins and paper towels, are accepted in the system. However, the molded fiber cafeteria trays are not included. Although they are BPI certified compostable, the cost is prohibitive given the limiting funding for this program. Back of house food scraps generated in the kitchen are also not included in the program.

Custodial staff transport the collected scraps to outdoor totes provided by the hauler, Blue Earth Compost. These totes are clearly labeled, designed with thick walls and secured with bungee cords to deter animals and unauthorized usage. The hauler picks up and transports the material weekly to Quantum Biopower, an authorized anaerobic digester in Southington, CT, which creates both renewable energy from captured methane and nutrient-rich compost from the residual digestate. Schools can request compost for school gardens, bringing the process full circle.

sorting



audit



Food Scrap Recycling Cycle



growing



processing



hauling

EDUCATIONAL TRAINING

Community and parent volunteers, which are organized by PTAC Green Schools Committee and Waste Free Greenwich, train the students in proper sorting, using a new video customized for GPS, a compost challenge competition, worm encounter and "Ready, Set, Sort!" video game, and monitor the sorting process in the cafeteria. Suggested classroom activities include games, media center readings, and student-led presentations. Waste audits are periodically conducted by volunteers to measure the tonnage collected, and Blue Earth tracks and reports tonnages. Some schools receive finished compost for their school gardens, highlighting the connection between food scrap recycling in the cafeteria and growing produce on campus.



Students watching the new instructional video



Worm encounter at Julian Curtiss School



Compost used in the New Lebanon School garden

COS COB SCHOOL RESULTS

Cos Cob School launched their food scrap recycling program in January 2025, attaining the **greatest diversion rate** in the district to date!

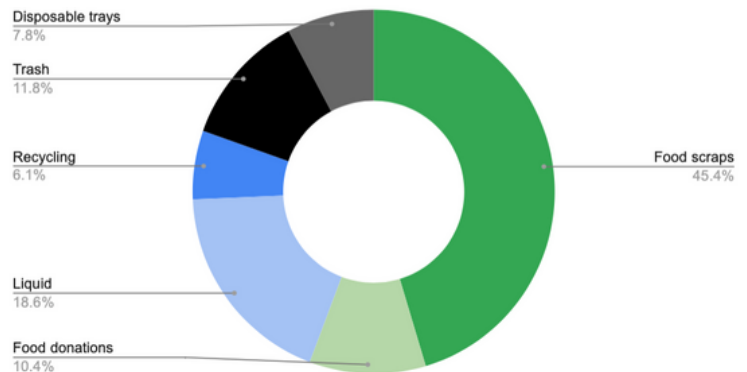
80.3%
of cafeteria waste
eliminated

33 lbs
of food scraps diverted daily

5,940 lbs
of food scraps projected to
be diverted annually

Cos Cob School (January 2025)

80.3% Diversion



Distribution of the waste stream by weight in the Cos Cob School cafeteria. Food scraps make up the largest component at 45.4%, followed by liquids at 18.6%. Students place uneaten, unopen food items in a share refrigerator to divert an additional 10.4% of waste. Disposable trays compose nearly 8%, while other trash items like plastic utensils, straws and food packaging are about 12%. Recycling makes up the smallest portion at 6.1%.

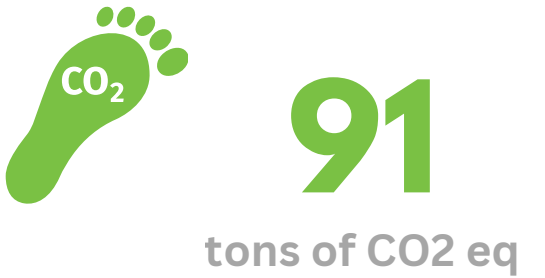
ELEMENTARY SCHOOL RESULTS: SY 2024/25

School (enrollment)	August + September (21 days)	October (22 days)	November (18 days)	December (15 days)	January (21 days)	February (14 days)	March (19 days)	April (17 days)	May (21 days)	June (12 days)	Total annual lbs	Pounds/school /day
Cos Cob (342)	-	-	-	-	350	350	675	650	800	650	3475	33
Old Greenwich (385)	705	1,105	830	675	525	575	900	950	850	900	8,015	45
Hamilton Avenue (297)	775	1,125	500	355	400	360	620	700	700	500	6,035	34
Julian Curtiss (235)	390	695	325	310	450	250	500	425	650	425	4,420	25
Parkway School (249)	440	475	380	380	350	375	650	750	700	500	5,000	28
Riverside (440)	255	485	340	245	325	315	375	500	500	500	3,840	21
New Lebanon (375)	1,085	990	1,035	775	650	500	950	1,150	900	650	8,685	48
Totals	3,650	4,875	3,410	2,740	3,050	2,725	4,670	5,125	5,100	4,125	39,470	33

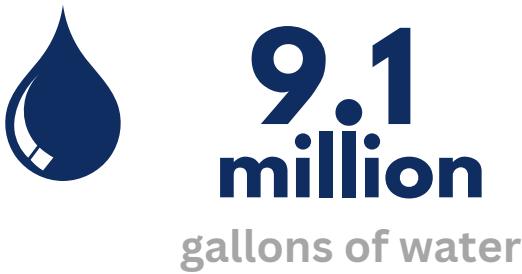
Pounds of food scraps collected at seven elementary school cafeteria per month, as reported by Blue Earth

With the addition of Cos Cob School in January, seven elementary schools participated in food scrap recycling in the 2024/25 school year. Students diverted nearly 40,000 pounds of food scraps annually, about 18.5 lbs per student per year, from the waste stream to higher use as energy and compost. Every day, approximately 33 pounds of food were recycled at each participating school.

The impacts of 39,470 pounds, or 19.74 tons, of food scraps on the climate and natural resources are included below, expressed as the lifecycle emissions footprint in metric tons of carbon dioxide equivalent and the water footprint in gallons of water, as well as their equivalents in terms of miles travelled and number of Olympic swimming pools, according to ReFED’s Impact Calculator.



enough to drive
232,280
miles by an average
gas-powered passenger
vehicle



equivalent to
14
Olympic swimming pools



RECOMMENDATIONS

- Reduce disposable plastics: The remaining waste is composed primarily of non-recyclable plastics, such as utensils, straws, snack bags, resealable bags and wrap, condiment packets and yogurt containers. These items are often a source of contamination in the organics recycling. By utilizing more sustainable alternatives like condiment pumps, recyclable portion cups and reusable metal utensils, contamination can be curbed and the waste stream further reduced.
- Introduce organics recycling back of house: Considerable organic waste is generated in school kitchens and can be diverted through organics recycling.
- Implement food waste prevention strategies: Organics recycling is a helpful tool to learn which foods go uneaten by students and can guide schools to adopt strategies to reduce waste, including slicing fruit, scheduling recess before lunch, using the USDA's offer vs. serve provision and introducing salad bars.
- Examine current carting contracts: Organics recycling eliminates one of the heaviest components of the waste stream - food scraps, while stacking trays cuts trash volume. Cost savings can potentially be realized by reducing tonnage, volume and service frequency and adjusting the existing contract to reflect these reductions.
- Increase sources of funding: While Greenwich Public Schools received state funding in November 2023 to specifically address wasted food, this source expired June 30, 2025. The program is currently funded by revenues generated through Connecticut's Bottle Bill program from the sale of mini liquor bottles. However, the revenues are limited and only cover enough to recycle food scraps and non-recyclable paper in seven school cafeterias. Without additional funding, the program cannot be expanded to additional cafeterias or school kitchens and the BPI certified compostable molded fiber cafeteria trays cannot be included. Despite the success of the Zero Waste School program, in particular the food scrap recycling initiative, the potential impact is constrained by lack of funding.

