The ZERO^2 PLAN

Progress Report #1

Zero Hunger & Zero Waste Solutions During a Pandemic

September 2019 through August 2021

Prepared in Partnership With

EcoConsilium™

FISCALLY SMART. SUSTAINABLE SOLUTIONS.

The ZERO^2 PLAN

A Report on Zero Hunger & Zero Waste Solutions During a Pandemic
September 2019 through August 2021

Project Contacts

For more information about The Zero^2 Plan, contact:

	Saint Paul Public Schools Nutrition Services	**Saint Paul Public Schools Facilities Department**
Saint Paul Public Schools	Stacy Koppen, MS, RD, LD Director of Nutrition Services 1930 Como Avenue Saint Paul, MN 55108 651-603-4945 stacy.koppen@spps.org	Chelsea Moody Environmental Specialist 1930 Como Avenue Saint Paul, MN 55108 651-744-4086 chelsea.moody@spps.org
EcoConsilium™ FISCALLY SMART. SUSTAINABLE SOLUTIONS.	Jodi Taitt, MS Founder / TRUE Zero Waste Advisor 8457 Meadow Lake Road North Minneapolis, MN 55428 763-504-2445 jodi@ecoconsilium.com	

The ZERO^2 PLAN

A Report on Zero Hunger & Zero Waste Solutions During a Pandemic
September 2019 through August 2021

Table of Contents

I. THE ZERO^2 PLAN & PANDEMIC…… 4

II. PROGRESS ON ENVIRONMENTALLY PREFERABLE PURCHASING GUIDELINES…… 9

III. PROGRESS ON ENVIRONMENTALLY PREFERABLE PURCHASING GOALS…… 12

IV. PROGRESS ON NUTRITION CENTER & SCHOOL GOALS…… 19

V. MORE ZERO^2 PLAN ACHIEVEMENTS …… 21

VI. SUMMARY & NEXT STEPS…… 23

I. THE ZERO^2 PLAN & PANDEMIC

A Report on the Zero^2 Plan During a Pandemic

In October 2019, Saint Paul Public Schools (SPPS) Nutrition Services (NS), in partnership with the Facilities Department, adopted the Zero^2 Plan. The goal of this ten-year project is to operate federally funded meal programs in a manner that embraces zero hunger and zero waste solutions.

On March 6, 2020, Minnesota reported its first COVID-19 case. By March 15, 2020, Governor Tim Walz announced the closing of all K-12 schools in the state, and schools did not reopen for in-person instruction for the remainder of the academic year. Since then, the COVID-19 pandemic has dramatically impacted how NS and the Facilities Department operate.

The purpose of this report is to summarize the progress NS and the Facilities Department have made in achieving the Phase 1 goals outlined in the Zero^2 Plan from September 2019 to August 2021.

Zero Hunger Solutions

Food insecurity impacts three out of five SPPS students. School breakfast, lunch, snack, and supper programs are a lifeline for families struggling with food insecurity. As stated in the Zero^2 Plan, NS pledges to end hunger, increase food security and improve nutrition over the next ten years through the following:

- Increase breakfast and lunch participation to 75% and 90%; respectively.
- Serve at least 1.2M suppers each year.
- Serve at least 371K summer meals each year.
- Maintain a scratch cooking concept.
- Sustain a Menu Philosophy that adheres to scientific evidence.
- Have student, parent, and community engagement from every known segment (e.g. students, schools, parents, community).

The overall 10-year target is to provide reliable and convenient access to free meals for all children in Saint Paul.

Zero Hunger During a Pandemic

When schools closed on March 15, 2020, Saint Paul families were facing a severe risk of food insecurity. Overnight, NS built a new meal box delivery program and reinvented its operations. Transportation, Security and Emergency Management (SEM), and Facilities team members worked alongside NS to refine and manage emergency meal operations on a daily basis.

Work was administered by the team at the Nutrition Center (NC), and meals were positioned throughout the city by the distribution team, which were ultimately passed into the hands of

customers – students, youth, and community partners – by NS personnel, paraprofessionals, SEM staff, and bus drivers. Twenty-one meals (a week's worth of breakfast, lunch, and supper) were packed in a single box and shared in the increment of one meal box per participating youth. Most meals made it to homes through Transportation's bus fleet, which operated Monday through Friday.

The week of March 16, 2020, SPPS NS packaged and distributed 68,130 meals to youth throughout Saint Paul and surrounding areas. From that point forward, NS quickly increased capacity and expanded production to 554,897 meals per week. Twenty-eight thousand children received meal boxes via home delivery each week. Curbside meal pick-up was also available. By the end of August 2021, the SPPS NS meal box delivery program served over 20M meals to the youth of Saint Paul and local communities.

SPPS Resiliency

NS operated its meal box delivery program while facing major and sporadic shortages of food, food products, ingredients, and supplies. Containment measures taken during the pandemic severely disrupted the food supply chain. From farm to fork, missing links between farmers, food transport, food processing plants and distribution systems dramatically impacted the essential flow of food from farms and producers to end users. In addition, natural disasters (such as hurricanes and wildfires) destroyed a great deal of agricultural production.

The highly compromised food supply chain problems impacted NS in the form of unanticipated food shortages and substitutions, increased prices, and reduced options. Shortages included:

- Fresh and frozen produce
- All poultry products
- Cheese and cheese products
- Yogurt and milk
- Cereal and baked goods
- Flour, eggs, and spices

The NS purchasing team adapted by building contingency plans that included last-minute changes to regular menus (based on food availability), alternative sourcing for food and supplies, and USDA adjustments to meal patterns. Examples include:

<u>Vendors & Manufacturers</u>

- Pre-approved menu substitutions for certain products.
- Streamlined inventory to promote efficient manufacturing levels.
- Order placement 12 weeks prior to delivery (previous lead time was 4 weeks).
- Consolidated and redirected shipments to the NC to address driver shortages.
- Daily communication to troubleshoot potential challenges.

<u>Internal Operations</u>

- Streamlined the menu to three entrée choices per day (previously offered five).

- Utilized Choice Bars to offer more side dishes and decrease service time.
- Daily communication to school kitchen teams to highlight safe, efficient, and effective work methods.

At the time of this writing, NS continues to manage about a dozen or more weekly shortages.

Zero Waste Solutions

Public policies under which NS operates have unintentionally, and significantly, increased the amount of waste schools produce. In 2019, SPPS generated almost 6K tons of districtwide waste. As stated in the Zero^2 Plan, NS is committed to reducing the amount of waste its meal programs produce by 2029 and will examine:

- Breakfast to Go (B2Go)
- School Lunch Programs
- After-School Snack and Supper Programs
- NC Operations
- School Recycling and Compost Programs

While all school meals are deserving of attention, breakfast was the most logical starting point. With an established annual baseline of 633 tons of B2Go supply chain discards, the B2Go Program serves as the cornerstone to the zero waste strategies and tactics NS will employ to accomplish measurable outcomes in reducing waste. Further, these first steps set the foundation for developing an Environmentally Preferable Purchasing Plan comprised of guidelines and goals to redesign, reduce, and reuse food packaging and foodservice supplies.

Zero Waste During a Pandemic

COVID-19 dramatically changed the type and amount of waste generated at SPPS schools. When schools closed on March 15, 2020, the volumes of trash, recycling and organic waste generated in each building abruptly changed. The uncertainty of when schools would reopen led to a large amount of hauler service change requests the Facilities Department issued daily. Most schools switched from a scheduled pick-up service to an “on call” service where building engineers request trash, recycling, and organics pick-up services when needed.

When schools reopened under new learning models, there was a significant change in the composition of the waste generated at schools. Examples of how the waste stream changed include:

1. New COVID-related discards entered the waste stream (e.g., personal protective equipment, etc.).

2. Food service safety requirements put many aspects of waste reduction, reuse, recycling, and organic waste management on hold:

    a. School meals were served on disposable trays in classrooms, cafeterias, and gymnasiums.

b. Share tables were suspended
c. Students stopped sorting their discards into three streams (trash, recycling, and organic waste) and placed all discarded materials into the trash.

To illustrate the impact COVID-19 had on the district-wide waste stream, Table 1 summarizes the estimated annual volumes of trash, recycling, and organics generated:

1. January through December 2019 (pre-pandemic volumes).

2. April 2020 through March 2021 (pandemic volumes).

    - January through March 2020 were not included because schools were closed in March 2020.
    - April 2020 through March 2021 is fully representative of the pandemic volume.

These data suggest:

1. Due to school closures and hybrid learning models, the volumes of trash, recycling and organic waste generated in schools significantly decreased:

    a. Trash collected in front-end-load dumpsters decreased 65%.
    b. Cardboard and milk carton recycling decreased 62%.
    c. Mixed paper, cans, glass, and plastics recycling decreased 72%.
    d. Organic waste recovery decreased 91%.

2. Due to the transition in food service operations from schools to the NC, the volume of compacted trash and recycling generated at the Education & Operations Services building (EOS) substantially increased, in large part, to the emergency meal box operation:

    a. Compacted trash increased 654%
    b. Compacted single stream recycling increased 1,386%

3. The district-wide volume of construction and demolition waste increased 250% due to the large number of building projects initiated while schools were closed.

Phase 1 Goals

Phase 1 goals, described in detail in Appendix F of the Zero^2 Plan, are focused on B2Go, NC operations, and school recycling and compost programs:

- NS Environmentally Preferable Purchasing Guidelines (EPP Guidelines).
- NS Environmentally Preferable Purchasing Goals (EPP Goals).
- Reuse, Recycling, and Compost Collection for the NC and Schools.

From September 2019 to August 2021, several Phase 1 goals were readily achieved while many zero waste objectives were delayed due to the pandemic. Likewise, many unexpected

accomplishments occurred. A summary of the progress NS and the Facilities Department made in achieving Phase 1 goals follows.

Table 1. SPPS Trash, Recycling & Organics Volumes

		Pre-Pandemic Volumes January – December 2019		Pandemic Volumes April 2020 – March 2021		
Material	**Equipment Type**	**Volume**	**Weight**	**Volume**	**Weight**	**Percent Change**
Municipal Solid Waste	Front-End-Load Dumpsters	69,697 Cubic Yards	Unknown	24,325 Cubic Yards	Unknown	65% Decrease
	Roll-Offs 20 cu. yds. (1930 Como Ave)	1,940 Cubic Yards	237 Tons	1,520 Cubic Yards	213	10% Decrease
	Compactor 40 cu. yds (1930 Como Ave)	200 Cubic Yards	29 Tons	3,760 Cubic Yards	189 Tons	654% Increase
Single Stream Recycling	**Cardboard & Milk Cartons** Front-End-Load Dumpsters	22,861 Cubic Yards	Unknown	8,636 Cubic Yards	Unknown	62% Decrease
	Mixed Paper, Cans, Glass, Plastics 95-Gallon Carts	24,509 Carts 12,255 Cubic Yards	Unknown	6,912 Carts 3,456 Cubic Yards	Unknown	72% Decrease
	Compactor 40 cu. yds (1930 Como Ave)	280 Cubic Yards	Unknown	4,160 Cubic Yards	Unknown	1,386% Increase
Source Separated Organics	Front-End-Load Dumpsters	Capacity 10,564 cu. yds. Volume 5,282 cu. yds.	Unknown	Capacity 962 cu. yds. Volume 481 cu. yds.	Unknown	91% Decrease

Source: Request for Proposals for Municipal Solid Waste, Source Separated Organics & Single Stream Recycling Services Issued July 8, 2021 (RFP #A21-1516-A)

II. PROGRESS ON ENVIRONMENTALLY PREFERABLE PURCHASING GUIDELINES

EPP Guidelines in the Zero^2 Plan (pages 27 and 28) utilize the following multifaceted environmental purchasing factors:

- Durable and reusable products that reduce waste
- Recycled content products
- Reusable products
- Reusable shipping containers
- Products that can be recycled
- Refuse or return to vendors wasteful packaging

To implement EPP Guidelines, NS committed to accomplishing nine goals. A summary of the progress on achieving each goal is provided in Table 2.

Request for Proposals

In January 2020, NS added EPP Guidelines to the RFP template for purchasing food and supplies with the following question:

o. Are you willing to partner with the District on the following efforts?

i. Menu Core Philosophy (https://www.spps.org/cms/lib/MN01910242/Centricity/Domain/11228/Menu%20Core%20Philosophy_final%202019%20for%20website.pdf)?

___Yes _____No

ii. Environmental Preferred Purchasing Plan? https://www.spps.org/cms/lib/MN01910242/Centricity/Domain/11529/SPPS%20NS%20Zero2%20Plan.pdf)

___Yes _____No

The NS purchasing team also modified the matrix to score proposals by awarding points to vendors that would partner with NS to achieve goals in the EPP Guidelines. An example of the new Bid Scoring Analysis follows:

Bid Scoring Analysis

Fixed fee evaluation

		Total Market Basket	Total Market Basket to Compare	Total Possible Points	Awarded Points Fixed fee
Company 1		$ 777,233.44	$ 669,773.44	60.00	**60**
Company 2		$ 781,786.10	$ 781,786.10	60.00	**48**

Market Basket Price evaluation

Market basket point total - 60	**Company 1**	**Company 2**
	60	48

		Reviewer 1		Reviewer 2		Reviewer 3	
	Points Possible	**Company 1**	**Company 2**	**Company 1**	**Company 2**	**Company 1**	**Company 2**
Reporting Ability	5	5	5	5	5	5	5
Vendor Performance, Customer Service, Willing to Partner with District on EPP and Menu Core Philsophy and Available Services	15	15	12	15	13	15	11
Delivery – Vendor's ability to meet delivery and stocking requirements, climate-controlled trucks, handling of shortages and quality issues.	10	10	9	10	8	8	7
HACCP Plan	10	10	10	10	10	10	10
References	9	9	9	9	9	9	9
Grand total	**49**	**109.00**	**93.33**	**109.00**	**93.33**	**107.00**	**90.33**

	Average	
	Company 1	**Company 2**
	5	5
	15	12
	9	8
	10	10
	9	9
Average Total	**108**	**92**

Impacts

All SY21 and SY22 contracts included EPP Guidelines. This practice continued for all RFPs from that point forward. However, it has not fundamentally changed awarded contracts because all vendors have agreed to work with SPPS to meet the guidelines. NS has chosen to advance the work by reconfiguring the scoring method as a new goal.

Table 2. NS Progress in Achieving Environmentally Preferable Purchasing Guidelines

EPP GUIDELINES PHASE 1 GOALS	REPORTING PERIOD SEPTEMBER 2019 TO AUGUST 2021
#1 – Review and analyze the current annual baseline of B2Go supply chain discards.	Task completed.
#2 – Update multi-year goals and implementation schedule base on priorities, difficulty, and upcoming Requests for Proposals at least twice a year.	Delayed due to COVID-19 pandemic.
#3 – Report achievements under EPP Guidelines annually.	A Board of Education presentation was held on October 15, 2019. Additional progress reports were not issued during the COVID-19 pandemic due to operational demands that took staff away from other projects.
#4 – Evaluate product specifications and purchasing documents to add EPP language, such as recyclable packaging, exclude non-recyclable packaging, reuse, or recycled content products.	Task completed.
#5 – All Requests for Proposals must require vendors to use recycled products whenever practicable.	Task completed.
#6 – NS and vendors may shift during the contract period to new environmentally preferable products when such products are readily available at a competitive cost, satisfy performance requirements, and adhere to the contract terms.	Some progress was made (e.g., switched from fruit cups to canned fruit for lunch and transitioned from plastic to compostable cutlery). These changes were interrupted during the COVID-19 pandemic, due to temporary health department requirements and severely low staffing levels, which led to reverting to individual fruit cups and compostable food containers.
#7 – NS will provide relevant information and training to raise staff awareness of the impact of procurement decisions on the environment. An ongoing promotional program will be developed to train the staff that will develop the specifications necessary to implement these guidelines. Information concerning these guidelines will be included to the new employee orientation process.	Task completed.
#8 – NS will develop and maintain information about environmentally preferable products, recycled content packaging, and products containing the maximum practicable amounts of recycled materials to be purchased.	Task completed.
#9 – NS will develop and implement a monitoring and tracking system tool to validate compliance with these guidelines.	Delayed due to COVID-19 pandemic.

III. PROGRESS ON ENVIRONMENTALLY PREFERABLE PURCHASING GOALS

Seven EPP Goals, described in detail in Appendix F of the Zero^2 Plan, target food packaging and foodservice supplies, which include:

- Four inbound strategies targeting 60.4 tons of food packaging per year.
- One inbound strategy targeting 27.1 tons of foodservice packaging and supplies per year.
- Two outbound strategies targeting 3.9 tons of food packaging per year.

A summary of the progress in achieving each goal is provided in Table 5. Goals #1, #2, and #6 were completed. Goal #4 was initiated, but delayed due to the pandemic. Goal #7 has been reconfigured. More information about Goals #3 and #5 follows:

Switch from Wood to Plastic Pallets

NS was not able to shift from wood to plastic pallets in the internal distribution system between the NC and schools. Due to operational and safety concerns, plastic pallets were deemed a hazard. However, NS and Facilities Department were able to use the insights from the pilot program to implement a successful district-wide pallet recovery system. Wood pallets generated throughout the district are no longer discarded. Rather, they are collected, transported, and consolidated at the NC for a centralized vendor pick-up, which allows the pallets to be refurbished and reused.

- 3,045 pallets were transported to the NC for reuse during this reporting period.
- Each pallet weighs 30 pounds.
- 45.7 tons of wood waste was eliminated from the district-wide waste stream.

Switch from Plastic Breakfast Bags to Reusable Bags

Despite a robust and wide-reaching pilot program, NS was not able to make a permanent shift to reusable breakfast bags due to the absence of a participating vendor. NS has been exploring alternative reusable bag options with a potential new partner; however, the pandemic has delayed progress. In the meantime, NS replaced plastic bags with paper bags for B2Go (Figure 1). There is no sorting system for breakfast waste in schools, which means plastic and paper B2Go bags are discarded in trash containers.

The change to paper bags required the use of two types of bags:

1. Light-weight bags for schools that store prepackaged B2Go meals in walk-in coolers.
2. Heavy-weight bags for schools that store prepackaged B2Go meals in milk coolers, which requires a heavier product to sustain moisture.

Both types of paper bags are shipped in a case wrap made of brown kraft paper.

Table 3 provides a materials' use comparison between plastic breakfast bags shipped in cardboard boxes and paper bags shipped in a paper case wrap over a three-year period:

- Year 1 – pre-pandemic quantity of plastic bags purchased (baseline)
- Year 2 – pre-pandemic and pandemic quantity of paper bags purchased (73.8% light weight & 26.2% heavy weight)
- Year 3 – pandemic quantity of paper bags purchased

Year 2 paper bag purchases were 53% of Year 1 baseline quantity because schools were closed for half of the year. In Table 4, Year 2 quantities are increased to baseline year quantities based on the ratio of light to heavy bags, and an estimated materials' use comparison is provided. When Year 2 quantities of paper bags purchased are equalized to Year 1 baseline quantities of plastic bags purchased, estimated total materials discarded increase by 97.4%.

Figure 1.
Plastic & Paper B2Go Bags

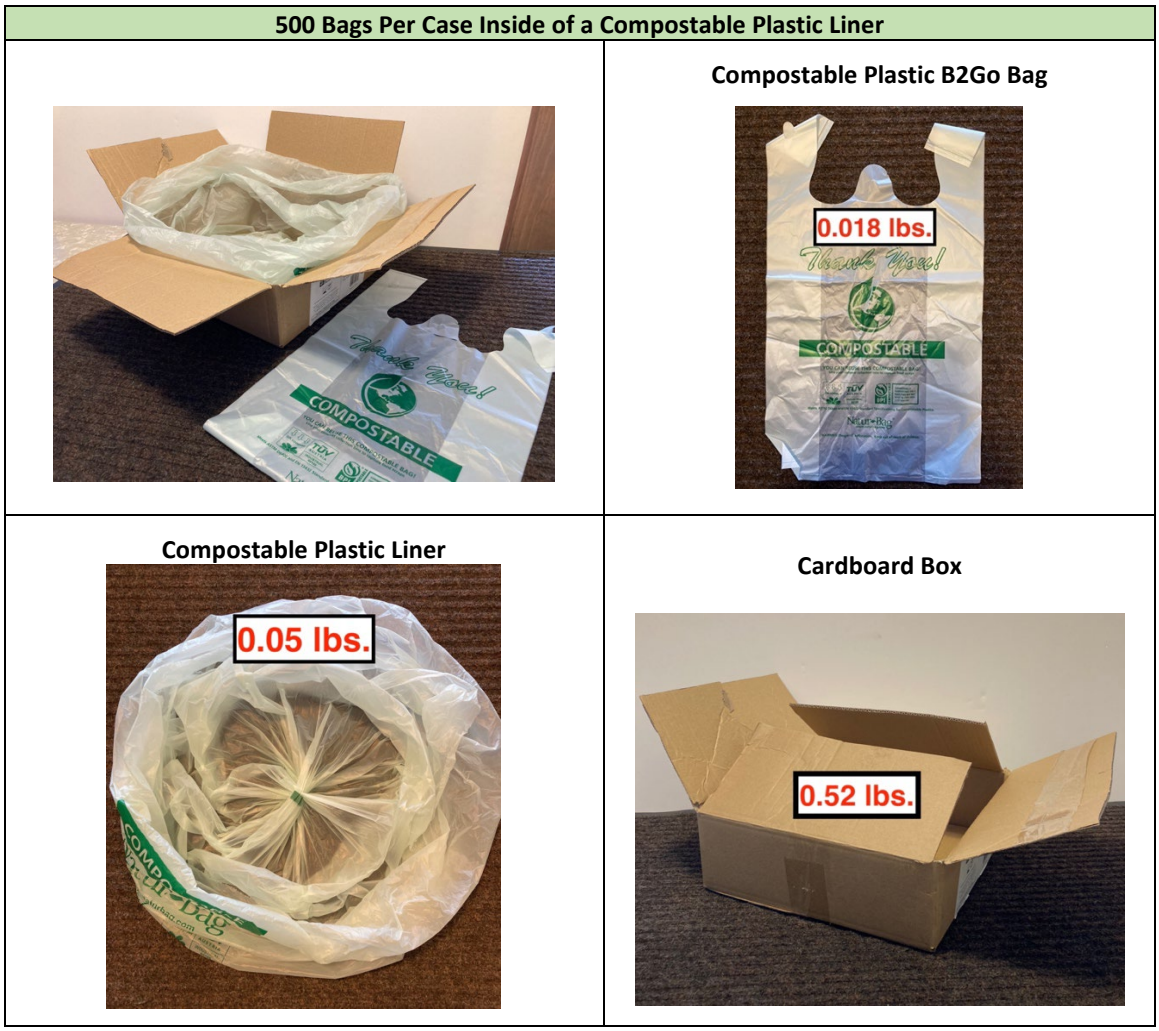
Plastic Breakfast Bag & Cardboard Box	Paper Breakfast Bag & Case Wrap

Compostable B2Go Bag

NS searched for a compostable plastic bag. Compostable plastic bags are shipped 500 per case inside of a compostable plastic liner (Figure 2). Table 4 provides a materials' use calculation for compostable plastic bags, using Year 1 baseline quantities. When Year 1 baseline quantities of

compostable plastic bags are purchased, estimated total materials discarded increase 48.7% when compared to the original plastic bags used for B2Go.

Figure 2.
Compostable Plastic B2Go Bags



Paper, Plastic or Compostable Bags for Breakfast?

Paper, plastic, and compostable plastic bags are all discarded as trash due to the absence of hallway trash, recycling, and compost sorting. When NS serves breakfast in:

- Paper bags instead of plastic bags, almost twice as many materials, by weight, are thrown away into the trash.
- Compostable plastic bags instead of plastic bags, almost half more materials, by weight, are thrown away into the trash.

In 2017, the Oregon Department of Environmental Quality (Oregon DEQ) conducted a literature review of existing worldwide research to glean high-level findings for packaging and foodservice ware and answered the following question:

> "If one has two equal products and the choice is between a recyclable packaging and a package that is not recyclable, which would you choose? In general, one would be safest to pick the lightest package option, so long as the material is disposed of properly (for example, in a modern landfill) if not recyclable."

NS is currently working to develop a new program where schools will have the opportunity to select B2Go meal service bags or containers (e.g., plastic, compostable and reusable) that results in the least amount of waste generated and discarded as trash. The department will be introducing this new program to schools in 2023 – 2024.

Table 3.
Materials' Use Comparison
Plastic Breakfast Bags vs. Paper Breakfast Bags

YEAR 1	YEAR 2	YEAR 3
Pre-Pandemic[1]	**Pre-Pandemic (6 months) Pandemic (6 months**	**Pandemic**
Sept 2018 to Aug 2019	**Sept 2019 to June 2020**	**Sept 2020 to June 2021**
Plastic Bags	**Paper Bags**	**Paper Bags**
Quantity: 4,208,000 (Weighs 0.012 lbs. per bag) 50,496 lbs. or 25.3 tons	Light-Weight Bags (0.022 lbs./bag) **Quantity: 1,644,000 (73.8%)** 36,168 lbs. or 18.1 tons Heavy-Weight Bags (0.033 lbs./bag) **Quantity: 582,500 (26.2%)** 19,223 lbs. or 9.6 tons Total: 55,391 lbs. or 27.7 tons	Light-Weight Bags (0.022 lbs./bag) **Quantity: 512,500** 11,275 lbs. or 5.6 tons Heavy-Weight Bags (0.033 lbs./bag) **Quantity: 141,500** 4,670 lbs. or 2.3 tons Total: 15,945 lbs. or 8.0 tons
Cardboard Boxes (500 bags per case) Qty: 8,416 (Weighs 0.44 lbs. per box) 3,700 lbs. or 1.8 tons	Paper Case Wrap Light-Weight Bags (500 per case) Heavy-Weight Bags (400 per case) Total Qty: 4,744 (Weighs 0.24 lbs. per wrap) 1,139 lbs. or 0.57 tons	Paper Case Wrap Light-Weight Bags (500 per case) Heavy-Weight Bags (400 per case) Total Qty: 1,379 (Weighs 0.24 lbs. per wrap) 331 lbs. or 0.17 tons
Quantity (Baseline): 100% **Total Materials Discarded 27.1 tons**	**Total Quantity: 53% of Baseline** **Total Materials Discarded 28.3 tons**	**Total Quantity: 16% of Baseline** **Total Materials Discarded 8.2 tons**

[1]Source: Zero[2] Plan – Goal #5 (page 33)

Table 4.
Materials' Use Comparison
Year 2 Quantity Increased to Year 1 Baseline Quantity

YEAR 1	YEAR 2	YEAR 2
Plastic Bags	**Paper Bags**	**Compostable Plastic Bags**
Baseline Quantity: 4,208,000 (Weighs 0.012 lbs. per bag) 50,496 lbs. or 25.3 tons	**Total Quantity: 4,208,000** Light-Weight Bags (0.022 lbs./bag) **Quantity: 3,105,504 (73.8%)** 68,321 lbs. or 34.2 tons Heavy-Weight Bags (0.033 lbs./bag) **Quantity: 1,102,496 (26.2%)** 36,382 lbs. or 18.2 tons Total: 104,703 lbs. or 52.4 tons	**Total Quantity: 4,208,000** Compostable Plastic Bags (0.018 lbs./bag) 75,744 lbs. or 37.9 tons Compostable Plastic Liner (1 per case) Quantity: 8,416 (Weighs 0.05 lbs. per liner) 421 lbs. or 0.21 tons Total: 76,165 lbs. or 38.1 tons
Cardboard Boxes (500 bags per case) Qty: 8,416 (Weighs 0.44 lbs. per box) 3,700 lbs. or 1.8 tons	Paper Case Wrap Light-Weight Bags (500 per case) Heavy-Weight Bags (400 per case) Total Qty: 8,967 (Weighs 0.24 lbs. per wrap) 2,152 lbs. or 1.1 tons	Cardboard Boxes (500 bags per case) Qty: 8,416 (Weighs 0.52 lbs. per box) 4,376 lbs. or 2.2 tons
Total Quantity (Baseline): 100% **Total Materials Discarded** **27.1 tons**	**Total Quantity (Baseline): 100%** **Total Materials Discarded** **53.5 tons**	**Total Quantity (Baseline): 100%** **Total Materials Discarded** **40.3 tons**

Table 5. NS Progress in Achieving Phase 1 Zero² Plan Goals

PHASE 1 EPP GOALS		REPORTING PERIOD SEPTEMBER 2019 TO AUGUST 2021
GOAL #1 – Switch Single Serve Apple & Orange Juice Cups from Non-Recyclable Plastic to Recyclable Plastic #5 **Eliminates 29.7 tons of non-recyclable plastic from waste stream a year.**		Task completed. These items are a commercial food purchase. Juice is still being provided by Citrus Systems; Citrus Systems uses recyclable plastic cups. This goal is being sustained without any issues.
GOAL #2 – Switch the Use of SPPS NS Entitlement for USDA Foods from Purchasing Fruit Cups in Non-Recyclable Plastic Cups to Recyclable Plastic Cups **Eliminates 3.2 tons of non-recyclable plastic from waste stream a year.**		Task completed. NS switched from USDA Brown Box to Net Off Invoice purchases to meet objective. For example, NS transitioned from Brown Box applesauce to National Food Group applesauce cups. Due to the large volume of fruit purchased, SPPS was in a unique position to switch other fruits, such as peaches, pears, and mixed fruit to National Food Group as well.
GOAL #3 – Switch from Wood to Plastic Pallets for Closed Loop Shipping System from NC to Schools **Targets the reduction of 2.8 tons of wood waste a year.**		NS piloted plastic pallets, but found operational and safety issues that required the team to discontinue. Plastic pallets are heavier than wood pallets, which required two people to move plastic pallets; compared to one person handling wood pallets. Plastic pallets also shifted on delivery trucks, which could not be alleviated with ties or attachments. Vendor options were exhausted with no feasible solution. An alternative project resulted from the findings of this pilot, which has led to a district-wide pallet recovery system.
GOAL #4 – Switch from One-Time-Use Cardboard Boxes to Reusable Crates for Apple & Orange Juice Shipped Directly to Schools **Targets the reduction of:** • **24.7 tons of cardboard a year** • **824 staff hours to flatten & recycle cardboard boxes at schools a year.**		NS held discussions with the vendor, which resulted in conclusion that NS must form a partnership with other schools and demonstrate a significant demand for a new transport and packaging system. Additional discussions, and a presentation at the annual meeting for School Nutrition Professionals, followed. One large school district expressed interest in partnering with SPPS to explore possibilities; however, efforts to move forward with this initiative have been delayed by the COVID-19 pandemic.

Table 5 Continued. NS Progress in Achieving Phase 1 Zero² Plan Goals

PHASE 1 EPP GOALS		REPORTING PERIOD SEPTEMBER 2019 TO AUGUST 2021
GOAL #5 – Switch from One-Time-Use Plastic Breakfast Bags to Reusable Bags **Targets the reduction of 25.3 tons of plastic and 1.8 tons of cardboard boxes a year.**		Despite a robust and wide-reaching pilot program, NS was not able to make a permanent shift to reusable breakfast bags due to the absence of a participating vendor. NS has been exploring alternative reusable bag options with a potential partner; however, the pandemic has delayed progress. In the meantime, NS has replaced plastic bags with paper bags for B2Go.
GOAL #6 – Decrease the Size of the Plastic Food Wrapper Smart Rounds are Packaged in at the NC **Eliminates 0.2 tons of plastic food wrappers from waste stream a year.**		Task completed. NC staff recalibrated packaging equipment to decrease the width of the Smart Round plastic food wrapper from 7" to 6".
GOAL #7 – Switch from One-Time-Use Cardboard Boxes to Reusable "Baskets & Wheels" Closed Loop Shipping System from NC to Schools **Targets the reduction of:** • **3.7 tons of cardboard a year** • **153 staff hours to flatten & recycle cardboard boxes at schools a year.**		NS built and tested a metal basket and wheel base container system to replace cardboard boxes for NC production. Operational and food quality concerns required the team to discontinue use. Freezer burn was the foremost issue with food quality. In addition, the systems shifted on delivery trucks, which could not be alleviated with ties or attachments. The team later tested plastic containers, but have encountered the same issues. The team will continue to seek a viable solution. More information will be included in the goals for SY23.

IV. PROGRESS ON NC & SCHOOL GOALS

Three Phase 1 Goals, described in detail in Appendix F of the Zero^2 Plan, target food rescue and collection systems for trash, recycling, and organics collection systems at the NC and schools. The goals are:

- Design a new food rescue program.
- Launch a best practices system for trash, recycling, and organics collection at the NC.
- Launch a new B2Go trash, recycling, and organics collection system for students at selected schools.

A summary of the progress in achieving each goal is provided in Table 6.

Food Rescue

MealConnect® was successfully implemented at the NC and multiple schools in the fall of 2019. The donations from the schools and NC amounted to 36,922 pounds during the reporting period.

MealConnect® is a food rescue program that uses a technology platform to connect food establishments with surplus food donations to local charitable organizations. These donations are directed to organizations that mitigate food insecurity. NS has found it beneficial to utilize this program because it offers easy and timely pick-ups, convenient activity tracking, and simple receipt recordings.

Trash, Recycling & Organics Collection Systems

The COVID-19 pandemic has delayed work on developing a best practice system for trash, recycling and organics collection systems at the NC and (B2Go) schools.

Table 6. NS and Facilities Progress in Achieving Reuse, Recycling & Compost Collection System Goals

PHASE 1 REUSE, RECYCLING & COMPOST COLLECTION SYSTEM GOALS	PROGRESS
GOAL #1 – Redesign Existing Food Rescue Program	Task completed. NS launched a new food rescue program at the NC and schools in the fall of 2019. Staff received training for the technology and food handling requirements, which have been replicated for staff as this program expands.
GOAL #2 – Launch a Best Management System for Trash, Recycling & Organics Collection at the NC	NS held a kick-off meeting in September 2019, which led to creating procedures, diagrams, and communication tools for the NC staff. Progress has been delayed due to the COVID-19 pandemic; however, this project is near completion at the time of preparing this report and will be discussed as future progress.
GOAL #3 – Launch a Best Management System for B2Go Trash, Recycling & Organics Collection System for Schools	Delayed due to COVID-19 pandemic.

V. MORE ZERO^2 PLAN ACHIEVEMENTS

Zero^2 Education During the Pandemic

As mentioned, NS provided 20M meals through a meal box program in response to the COVID-19 pandemic. Inside each meal box, families were provided a booklet identifying local food resources, district announcements, food handling instructions, recipes and interactive activities. Zero^2 educational information became a standard feature to the booklet by October 2020, which included:

- Zero^2 Fun Facts
- Internet Activities & Challenges
- Recycling Do's & Don'ts
- Food Waste Reduction Tips

Examples of Zero^2 educational information are provided in Figure 2. By July 2021, Zero^2 educational information was published in 490,582 booklets.

Figure 2.
Examples of Zero^2 Educational Information

RFP for Trash, Recycling & Organics Services

In July 2021, the Facilities Department issued a Request for Proposal for district-wide trash, recycling, and organics hauling services. For the first time, all 60 private and charter schools located within SPPS district boundaries may be added over the term of the new hauler contract. With each private or charter school added to the contract, the SPPS route density increases, resulting in economies of scale for the hauler. The environmental benefits for SPPS neighborhoods include:

- Less truck traffic and miles driven.
- Less greenhouse gas emissions.
- A smaller carbon footprint for district-wide trash, recycling, and organics hauler services.
- A reduction in hauler overhead costs per school served.

Any addition to the contract must be agreed upon by all parties; SPPS, the private or charter school, and hauler.

VI. SUMMARY & NEXT STEPS

Despite the COVID-19 pandemic dramatically impacting daily operations for NS and Facilities Departments, team members accomplished success for many of the Zero^2 goals. SPPS eliminated approximately 97.3 tons of material from the waste stream. A summary of these accomplishments is provided in Table 7.

Table 7.
Zero^2 Plan Accomplishments
September 2019 through August 2021

Goal	Description	Material	Estimated Annual Tons Eliminated from Waste Stream
1	Switch Single Serve Apple & Orange Juice Cups to Recyclable Plastic #5	Non-Recyclable Plastic	29.7
2	Switch SPPS NS Entitlement for USDA Foods to Recyclable Plastic Cups	Non-Recyclable Plastic	3.2
3	Established a district-wide wood pallet recovery system	Wood Waste	45.7
6	Decrease the size of plastic food wrapper for Smart Rounds packaged at NC	Non-Recyclable Plastic	0.2
8	Redesign existing food rescue program	Nutritious Leftover Food	18.5
		TOTAL TONS	**97.3**

Next Steps

The next steps for the Zero^2 Plan are to:

- Complete a progress report for the September 2021 through August 2022 reporting period.
- Revise RFP language to establish meaningful vendor commitments that support the Zero^2 Plan.
- Collaborate with vendors to establish an annual plan to decrease waste.
- Find suitable containers that will allow the NC to transition from cardboard boxes to a reusable packaging system.
- Develop a new breakfast container program for schools that will result in the least amount of waste generated and discarded as trash (by allowing schools to select plastic, compostable or reusable containers based on their school's breakfast waste management).

- Create additional training content for NS supervisors and NSAs.
- Expand the food rescue program.
- Purchase a “no product, no bag feature” film machine for NC-packaged products.
- Decrease disposable trays and cutlery as normal meal service resumes at schools.
- Establish a baseline for supply chain discards in the lunch program.
- Create a best management system for trash, recycling, and organics collection at EOS.
- Re-launch a best management system for trash, recycling, and organics collection in school cafeterias.
- Work with Purchasing Department to establish a methodology to add private and charter schools to the hauler contract for trash, recycling, and organics services.

For each goal, the project team will continue to develop methodologies to measure the financial and environmental gains and/or benefits in comparison to the cost of implementation.