The ZERO^2 PLAN

Progress Report #2 on Zero Hunger & Zero Waste Solutions

Back to School During a Pandemic

September 2021 through August 2022

Prepared in Partnership With

The ZERO^2 PLAN

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I. ZERO^2 PLAN HISTORY

Zero^2 Plan Adopted October 2019

Saint Paul Public Schools (SPPS) is home to 32,000 scholars attending 56 schools and programs in 73 buildings. SPPS manages 7.5M square feet of facilities and occupies 500 acres of land. Highly trained and deeply dedicated staff, cutting-edge academic programs, and strong community support are among the district's hallmarks. The student population is diverse, with students who speak more than 125 languages and dialects.

In October 2019, SPPS Nutrition Services (NS) adopted the Zero^2 Plan in partnership with the Facilities Department. 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.

The original Zero^2 Plan established Phase 1 Goals focused on Breakfast to Go (B2Go), Nutrition Center (NC) operations, and school recycling and compost programs. Described in detail in Appendix F of the Zero^2 Plan, Phase 1 Goals are organized into three categories:

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

These goals establish a financially and environmentally sustainable foundation for future project phases designed to end hunger and reduce waste for SPPS students and the Saint Paul community at large.

Pandemic Closes Schools March 2020

On March 15, 2020, Governor Tim Walz announced the closing of all K-12 schools in the state due to the Coronavirus pandemic, and schools did not reopen for in-person instruction for the remainder of the academic year. Students gradually returned in the 2020-2021 school year, which was riddled with challenges and disruptions. Students did not fully return to a "normal school operation" until September 2021. Since then, the COVID-19 pandemic has had lingering impacts on NS and the Facilities Department.

Zero Hunger During a Pandemic

Saint Paul families faced a rapidly growing risk of food insecurity during the pandemic. NS reinvented the Child Nutrition Program with a home delivery service to ensure all children in Saint Paul had access to nutritious meals. Labor shortages, other natural disasters, and supply chain disruptions took a drastic toll and served as daily obstacles. Despite these challenges, more than 20M meals were provided to Saint Paul's youth through this program.

Zero Waste During a Pandemic

School closures led to enormous reductions in trash, recycling, and organic waste generated in school buildings. Likewise, school reopening created a new pattern of waste due to new COVID-related discards entering the waste stream (e.g. personal protective equipment), and new foodservice safety requirements (e.g. suspension of share tables and cafeteria waste sorting programs).

Progress Reports

Phase 1: September 2019 to August 2021

From September 2019 to August 2021, the Zero^2 Plan Progress Report #1 describes in detail NS and Facilities Department response when schools closed due to the pandemic and summarizes the challenges, barriers, and advancements NS and Facilities Department made in achieving Phase 1 Goals. Several Phase 1 Goals were achieved, many objectives were delayed, and some unexpected accomplishments occurred.

Phase 2: September 2021 to August 2022

As part of completing the first progress report, NS and Facilities Department created Phase 2 Goals for September 2021 through August 2022. As previously mentioned, goals are grouped into three main categories: EPP Guidelines; EPP Goals; and Reuse, Recycling and Compost Collection for the NC and Schools. Phase 2 Goals include:

NS Environmentally Preferable Purchasing Guidelines (EPP Guidelines)

1. Collaborate with vendors to establish meaningful vendor commitments that support the Zero^2 Plan.
2. Collaborate with vendors to establish an annual plan to decrease waste.
3. Revise RFP language to establish meaningful vendor commitments that support the Zero^2 Plan.
4. 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.
5. NS will develop and implement a monitoring and tracking system tool to validate compliance with these guidelines.
6. Create additional training content for NS supervisors and NSAs.
7. Update multi-year goals and implementation schedule based on priorities, difficulty, and upcoming Requests for Proposals.
8. Report achievements under EPP Guidelines annually.

NS Environmentally Preferable Purchasing Goals (EPP Goals)

1. Switch from one-time-use cardboard boxes to reusable crates for apple and orange juice shipped directly to schools.

2. Find suitable containers that will allow the NC to transition from cardboard boxes to a reusable packaging system.
3. 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 system).
4. Establish a baseline for supply chain discards in the lunch program.

Reuse, Recycling, and Compost Collection for the NC and Schools

1. Expand the food rescue program.
2. Purchase a "no product, no bag feature" film machine for NC-packaged products.
3. Decrease disposable trays and cutlery as normal meal service resumes at schools.
4. Create a best management system for trash, recycling, and organics collection at EOS.
5. Re-launch a best management system for trash, recycling, and organics collection in school cafeterias.
6. Work with Purchasing Department to establish a methodology to add private and charter schools to the hauler contract for trash, recycling, and organics services.

The purpose of this Zero^2 Plan Progress Report #2 is to summarize NS and Facilities Department outcomes for Phase 2 Goals and create Phase 3 Goals for September 2022 through August 2023.

II. BACK TO SCHOOL SEPTEMBER 2021

SPPS reopened schools in September 2021, and students were introduced to significant changes in daily routines. These changes were intended to reduce the spread of COVID-19, such as face covering, social distancing, and quarantine procedures. Despite these efforts, students who were potentially exposed to the virus were intermittently assigned to online learning. This created extensive absenteeism patterns for schools.

Zero Hunger During Reopening

NS continued to provide home meals to students who were out of school for quarantine and/or enrolled in online learning. To reduce the spread of COVID-19 by reducing cross contact among students and staff in school cafeterias, student meal services were shifted to a temporary new model that included:

- Prepacked B2Go, which allowed students to quickly pick up a full meal and transition to their classrooms.
- Limited self-service at lunch and fewer menu choices to increase meal service speed.
- Dining in spaces outside of cafeterias, including classrooms, to achieve social distancing requirements for students during lunch.
- Temporary discontinuation of reusable silverware and lunch trays to reduce handling of reusable items by multiple students and staff.
- Temporary discontinuation of Share Tables to reduce food handling by multiple students.
- Temporary discontinuation of cafeteria waste sorting programs (e.g., recyclables, organics, trash) to promote social distancing and decrease the amount of time students gathered in cafeterias.

Labor shortages, natural disasters, and supply chain disruptions continued to serve as obstacles to overcome daily. NS dedicated extensive work to modify purchasing practices and work with vendors to ensure food and supply shortages could be resolved without impacting the nutritional quality of meals.

Zero Waste During Reopening

While the new school model for student meal services allowed students to return to school for their education, it significantly contributed to new and increased waste generation in buildings. Examples of how waste increased include:

- The use of personal protective equipment (PPE), including face masks, increased the overall volume of waste generated.

- The switch from reusable to disposable cutlery and lunch trays generated large volumes of discarded materials – whether the cutlery and lunch trays were compostable or not.

- The increased use in disposable foodservice ware significantly increased local and national demand for compostable foodservice ware creating shortages. Shortages oftentimes required NS to use non-compostable, one-time-use products.

- A significant amount of trash was generated when schools stopped operating: (1) Share Tables; and (2) cafeteria waste sorting programs where students separate waste into three streams –recyclables, organics, and trash.

- The greater the distance meals were served away from the cafeteria (e.g., alternative dining spaces), the more difficult it was for Facilities Department to set up systems for students to separate waste into recyclables, organics, and trash.

NS and Facilities Department implemented these measures during a time of extreme uncertainty and on-the-spot learning. Some of these changes were required by government agencies. Some changes were adopted as best management practices. As COVID-19 case numbers ebbed and flowed throughout the SPPS community, NS and Facilities Department remained committed to accomplishing Zero^2 Plan Phase 2 goals whenever possible.

III. PROGRESS ON ENVIRONMENTALLY PREFERABLE PURCHASING GUIDELINES

NS Environmentally Preferable Purchasing Guidelines (EPP Guidelines) in the original 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 remains committed to accomplishing eight Phase 2 tasks. A summary of the tasks, and outcomes, from September 2021 to August 22 is provided in Table 1.

Pandemic Impedes Progress

While there was success in building new tools to identify solutions with vendors, there were lingering impacts from the COVID-19 pandemic that impeded progress on achieving EPP Guidelines. When students returned to school in September 2021, there were food and supply shortages that impacted daily operations. In addition, service standards were impacted due to social distance requirements, cross contamination concerns, and staffing shortages.

Food & Supply Shortages

After more than a year and a half of the pandemic, food and supply shortages were still affecting school districts across the nation. Most schools expected the food industry to rebound. However, the reality was that the entire food industry (farmers, manufacturers, drivers) was confronted with more setbacks due to natural disasters, labor shortages, and quarantine requirements.

At SPPS, there were a dozen or more shortages each week that required the department to make unexpected shifts to provide a complete and wholesome meal to students. Primary struggles included:

- Drought, wildfire, and hurricanes that devastated crop and livestock producers.

- Critically low staffing levels for basic elements of the supply chain (e.g., farming, logistics, and transportation) impeded harvesting, manufacturing, and delivering goods on time.
- Shortages of raw materials to make packaging (e.g., yogurt cups, cereal bowls, transport packing) contributed to shortages and cancellations of items across all categories.

NS Response to Shortages

NS took numerous actions to assist partnerships with vendors and manufacturers:

- Pre-approved menu substitutions for major foods that were at risk.
- Streamlined inventory to make production more efficient at manufacturing level.
- Placed orders 12 or more weeks in advanced (compared to four weeks).
- Accepted direct shipments at the NC instead of schools (to address truck driver shortages).

In addition, NS adjusted operations to maintain safe and efficient food service:

- Prepackaged meals for quick distribution to students eating in classrooms.
- Utilized individually wrapped goods and disposable supplies to reduce cross contamination.
- Streamlined the menu to include 2 to 3 lunch entrée options (versus 4 to 5 options).
- Utilized Choice Bars to offer more side dishes and increase serving speed.
- Provided daily communication to teams highlighting safe, efficient, and effective work methods for the assigned menu.

As food and supply availabilities improved, the NS team transitioned to traditional practices. While many of these disruptions continue today, the team has renewed efforts to building tools and resources that support progress through partnerships with vendors and manufacturers.

Table 1. NS Progress in Achieving Environmentally Preferable Purchasing Guidelines September 2021 to August 2022

EPP GUIDELINES PHASE 2 TASKS	REPORTING PERIOD SEPTEMBER 2019 TO AUGUST 2021
#1 – Collaborate with vendors to establish meaningful vendor commitments that support the Zero^2 Plan.	Delayed due to COVID-19 pandemic.
#2 – Collaborate with vendors to establish an annual plan to decrease waste.	Delayed due to COVID-19 pandemic.
#3 – Revise RFP language to establish meaningful vendor commitments that support the Zero^2 Plan.	Task completed.
#4 – 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.	Task completed. Supply vendors were able to offer compostable cutlery, and a produce vendor was able to transition from individually wrapped portions to bulk packaging for produce.
#5 – NS will develop and implement a monitoring and tracking system tool to validate compliance with these guidelines.	Progress delayed; however, this tool will be completed prior to the end of the 2022-23 school year.
#6 – Create additional training content for NS supervisors and NSAs.	Task completed. Staff were provided training on procedures to reduce waste, as well as instructions on sorting COVID-related materials (e.g. face coverings) prior to the start of the school year. In addition, supervisors received training on the food recovery program in May 2022.
#7 – Update multi-year goals and implementation schedule based on priorities, difficulty, and upcoming Requests for Proposals.	Task completed.
#8 – Report achievements under EPP Guidelines annually.	Task completed.

IV. PROGRESS ON ENVIRONMENTALLY PREFERABLE PURCHASING GOALS

EPP Goals encompass the methods and intended outcomes directly associated with internal and external supply use, food packaging, and food transport. Internal goals primarily result in waste reduction from the NC to schools. External goals primarily result in waste reduction from companies who provide food and supplies to SPPS.

There are four Phase 2 EPP Goals. A description of the outcomes for each goal, from September 2021 to August 2022, follows.

Goal #1 – Switch from One-Time Use Cardboard Boxes to Reusable Crates for Apple & Orange Juice Shipped Directly to Schools

NS found great interest in working with a vendor to transform transport packaging for juice containers received at schools. The intent was to replace cardboard boxes with plastic crates, much like milk deliveries. Numerous meetings and a site visit were conducted. Despite some reluctance, vendors were open to additional conversation if multiple schools were able to make a commitment to this goal. Minnesota Nutrition professionals were informed of the idea through a presentation at the 2021 Minnesota School Nutrition Association Annual Conference. Discussions were held with food buying groups, and school nutrition professionals were invited to consider this initiative. Unfortunately, there was very low interest. Supply chain disruptions, which all schools experienced during and after the pandemic, stood as an additional barrier to interest and success.

Cardboard Box Packaging for Juice Products	
	While this goal may be revisited in the future, it will be removed from EPP Goals at this time to allow the team to focus on more productive waste solutions. **This goal targets the reduction of:** • **24.7 tons of cardboard a year.** • **824 staff hours to flatten & recycle cardboard boxes at schools a year.**

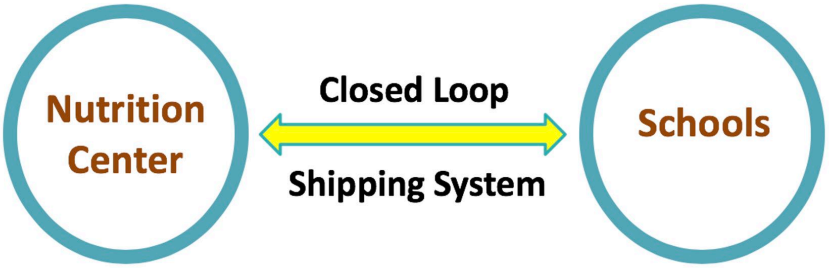
Goal #2 – Find Suitable Containers That Will Allow the NC to Transition from Cardboard Boxes to a Reusable Packaging System

NS also found great interest in working on the internal packaging system used for home-made items at the NC. The intent was to replace cardboard boxes assembled at the NC with reusable plastic containers that could be transported between the NC and schools in a closed loop shipping system.

Cardboard Box Assembly at the NC

This goal targets the reduction of:

- **3.7 tons of cardboard a year.**
- **153 staff hours to flatten & recycle cardboard boxes at schools a year.**



NS designed and tested multiple new models, including:

- Metal Baskets that shifted on delivery trucks, which could not be alleviated with ties or attachments.
- Reusable Plastic Containers, including collapsible options, that compromised food quality due to freezer burn when stored in the freezer.

The team will continue to seek a viable reusable transport packaging system, and more information will be included in the Phase 3 Goals progress report.

Reusable Plastic Containers	Metal Baskets
The team plans to work with a vendor to explore a commercial grade product that may withstand the production, storage, and transportation elements in this system.	

Goal #3 – Develop a Custom Breakfast Container Program for Schools

Breakfast in classrooms, known as B2Go, is one of the key breakthroughs to addressing hunger and increasing food security. Almost 14K students eat breakfasts each day at SPPS. The B2Go meal concept allows students to choose their desired breakfast foods when they enter their school, which students collect in single-use bags and carry to their classrooms to enjoy while teachers begin the instructional day. Due to the volume of breakfasts served, the type of breakfast bag students use for B2Go has been a significant focus of the Zero^2 Plan.

The original breakfast bag was plastic, which performed very well in this application. However, the plastic bag is not recyclable, and SPPS discards over 25 tons of plastic breakfast bags in the trash a year. Because most schools do not have a sorting system for breakfast waste (e.g., recyclables, organics, and trash), a goal in the original Zero^2 Plan was to switch from plastic breakfast bags to reusable breakfast bags.

Reusable Breakfast Bag Pilot

NS partnered with a reusable bag company in 2019. Despite a robust and wide-reaching pilot program, NS was not able to make a permanent shift to reusable breakfast bags because the company closed during the pandemic. Currently, there is no other vendor who offers this type of reusable bag along with a pooling system where dirty bags are picked up, cleaned off site, and returned to schools for reuse.

Paper Breakfast Bags

Rather than eliminating this goal, NS adjusted by exploring another alternative to plastic breakfast bags. Originally, two types of brown paper bags (a heavy bag and lighter weight bag) were purchased to replace plastic. Unfortunately, these bags did not perform well in the coolers or freezers. They suffered leaking and breakage in the humidity. Teachers, staff, and students complained about the bags tearing and consuming additional time in the breakfast line. While paper bags could be collected as organics and composted, there is no sorting system for breakfast waste in most schools, and paper breakfast bags were also discarded in the trash.

Original Plastic Bag **0.012 lbs.**	**Reusable Bag** **Pilot Program**	**Paper Bag** **Heavy (0.033 lbs)** **Light (0.022 lbs.)**

Compostable Plastic Breakfast Bag

NS dedicated time to exploring a compostable plastic bag option. Multiple types of compostable plastic bags were sourced and tested. Most bags were not suited for the SPPS B2Go program due to:

- The dimensions of the bag, which were typically sized for purposes that were either much smaller or larger than a typical school breakfast (e.g., produce departments, convenience stores, and retail establishments).
- The strength of the bag and the ability to withstand transporting a complete breakfast with milk, which were typically designed for goods that were very different than a typical school breakfast (e.g., produce, groceries, or retail goods).
- The weight of the bags, which exceeded the original plastic bag.
- The cost of the bags, which were not manageable within the supply budget.

The next step was to search for a partner that would custom design a compostable plastic breakfast bag.

Custom Compostable Plastic Bag

After numerous attempts, NS secured a willing partner to design a compostable plastic bag that schools could use for the B2Go program. This compostable option was strong enough to hold a complete breakfast, and it was close to the dimensions of the original plastic bag. However, the compostable plastic bag weighs 50% more than the plastic bag and is much more expensive than either of the previous plastic and paper bags.	

Select the Bag that Weighs Less

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."

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; and the cost of the bag is twice as expensive.

Almost all SPPS schools throw paper, plastic, and compostable breakfast bags in trash due to the absence of classroom or hallway breakfast waste sorting systems (e.g., recyclables, organics, trash). Research suggests that if discarded breakfast bags will be managed as trash, select the bag that weighs less.

Custom B2Go Container Program

NS explored whether a single solution for plastic bags, compostable plastic bags, or reusable containers could serve all schools and determined an individualized approach is needed, based on the daily operations and logistics at each school. For example, a small number of schools have the internal daily operations and logistics to support a reusable container program while

other schools do not. Where it is feasible, providing reusable supplies is the most desirable option. Experience has demonstrated that reusable supplies are feasible when students and staff are part of the decision-making process.

NS is currently working to develop a new custom breakfast container program where individual schools will have the opportunity to select types of B2Go bags or reusable containers based on their internal daily operations and logistics to manage these materials so that the least amount of waste is generated and discarded as trash. This concept of a custom program is summarized below.

Custom B2Go Container Program

B2Go Container Type	**Individual School Daily Operations & Logistics**
TIER 1 Reusable Container	Operates a Reusable Container Program Students separate reusables in collection containers. Staff consolidates & sanitizes reusables for the next meal service. No waste is generated.
TIER 2 Compostable Plastic Breakfast Bag	Operates a Breakfast Waste Sorting System Students separate B2Go bags in organics collection containers. Staff transfer & consolidate organic waste into organics dumpsters.
TIER 3 Plastic Breakfast Bag	Does Not Operate a Breakfast Waste Sorting System Students place all breakfast waste in trash collection containers. Staff transfer & consolidate trash into trash dumpsters.

NS will be further developing the custom breakfast container program and introducing it to schools during the 2023-2024 school year.

Goal #4 – Establish a Baseline for Supply Chain Discards in the Lunch Program

Work on this goal was started and then delayed due to COVID-19 pandemic. NS will add this goal to Phase 3 Goals and future progress reports.

V. PROGRESS ON REUSE, RECYCLING & COMPOST COLLECTION GOALS

Goals for reuse, recycling, and compost collection the the NC and schools encompass the methods and intended outcomes directly associated with waste management by students and staff. Six Phase 2 goals target reuse and collection systems for trash, recycling, organics, and food donations. A summary of the outcomes for these goals, from September 2021 to August 2022, is provided in Table 2.

Table 2. NS and Facilities Progress in Achieving Reuse, Recycling & Compost Collection Goals

REUSE, RECYCLING & COMPOST COLLECTION PHASE 2 GOALS	REPORTING PERIOD SEPTEMBER 2021 TO AUGUST 2022
#1 – Expand the Food Rescue Program	Task completed. The NC and schools have been provided group and individual training. This work is on-going due to staff turnover and building plans.
#2 – Purchase a "No Product, No Bag Feature" Film Machine for NC-Packaged Products.	Task completed. The team installed new packaging equipment for foods made in the NC. This equipment introduced innovative film control technology, which decreased waste by avoiding empty packages. "No product, no bag" avoids empty packages; providing increased efficiency with time and film material.
#3 – Decrease Disposable Trays & Cutlery as Normal Meal Service Resumes at Schools	Task completed. As the use of alternative dining spaces decreased, and social distancing requirements eased, the NS team resumed use of reusable trays and flatware in cafeterias as the standard service option.
#4 – Create a Best Management System for Trash, Recycling & Organics Collection at EOS	Task started with a focus on the NC. The team worked with a graphic designer to create a template of the NC that illustrates placement of equipment and workstations. The template will be used to develop a "spaghetti diagram" or visual flow of the trash/recycling/organics collection system in the NC loading dock, warehouse, and production kitchen. Progress has been delayed due to the COVID-19 pandemic and staff turnover. This work is on-going and will be discussed in future progress reports.
#5 – Re-Launch a Best Management System for Trash, Recycling & Organics Collection in School Cafeterias	Delayed due to COVID-19 pandemic.
#6 – Work with Purchasing Department to Establish a Methodology to Add Private & Charter School to the Hauler Contract for Trash, Recycling, Organics Services	Task started with a focus on two charter schools located in St. Paul. This work is on-going and will be discussed in future progress reports.

Food Rescue

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.

MealConnect® was successfully implemented at the NC and multiple schools in the fall of 2019. When schools reopened, staff received a refresher training course on the software program and food handling requirements. Due to staff turnover, this goal is regularly revisited and individual training is often provided. The donations from the schools and NC amounted to 36,687 pounds during the reporting period. Though more schools are utilizing MealConnect® for food rescue, the total volume of donated food will fluctuate depending on how much food is left over across the district.

Create a Best Management System for Trash, Recycling & Organics Collection at EOS

SPPS has a long history of recycling within classrooms and "behind the scenes" at NS and Facilities Department operations, and food and organics collection programs at the NC and school kitchens and cafeterias. In 2005 SPPS began a pilot food-to-hogs program at five sites, including the NC, where food scraps and milk were collected and picked up by a local farm. By 2010 the food-to-hogs program had been expanded district-wide. During the 2017-2018 school year, SPPS launched the next phase of organic waste management by making the switch from food-to-hogs to a district-wide source separated organics collection program where organic waste is transported to a commercial compost facility by a hauler.

Best Management System at EOS

The purpose of creating a best management system is to modernize and elevate to best practices the existing trash, recycling, and organics collection system at EOS:

- Develop a Spaghetti Diagram to create a visual flow of the collection system, comprised of people, equipment, and vendor services, and identify areas for improvement.
- Develop a best management collection container and equipment plan to optimize the diversion of recyclables and organics from the waste stream.
- Lean logistics and daily operations.
- Expand the organics collection system at NC (paper towels) and the entire EOS facility (food scraps, food-soiled paper, and paper towels).

- Draft a Standard Operating Procedure for EOS with a set of written instructions that describes the step-by-step process taken to optimize the recovery of recyclables and organics from the waste stream.

The work started with a focus on developing a Spaghetti Diagram for the NC.

Spaghetti Diagram

A Spaghetti Diagram is one of the most widely used "lean tools" in the manufacturing, service, and logistics sectors. It helps to identify unnecessary activities. Some examples of unnecessary activities for trash, recycling and organics collection systems include, but are not limited to:

- Staff Movement: bending, reaching, searching, walking, lifting.

- Collection Containers: staff recognition of containers and searching for containers, cross contamination of materials (trash, recycling, organics).

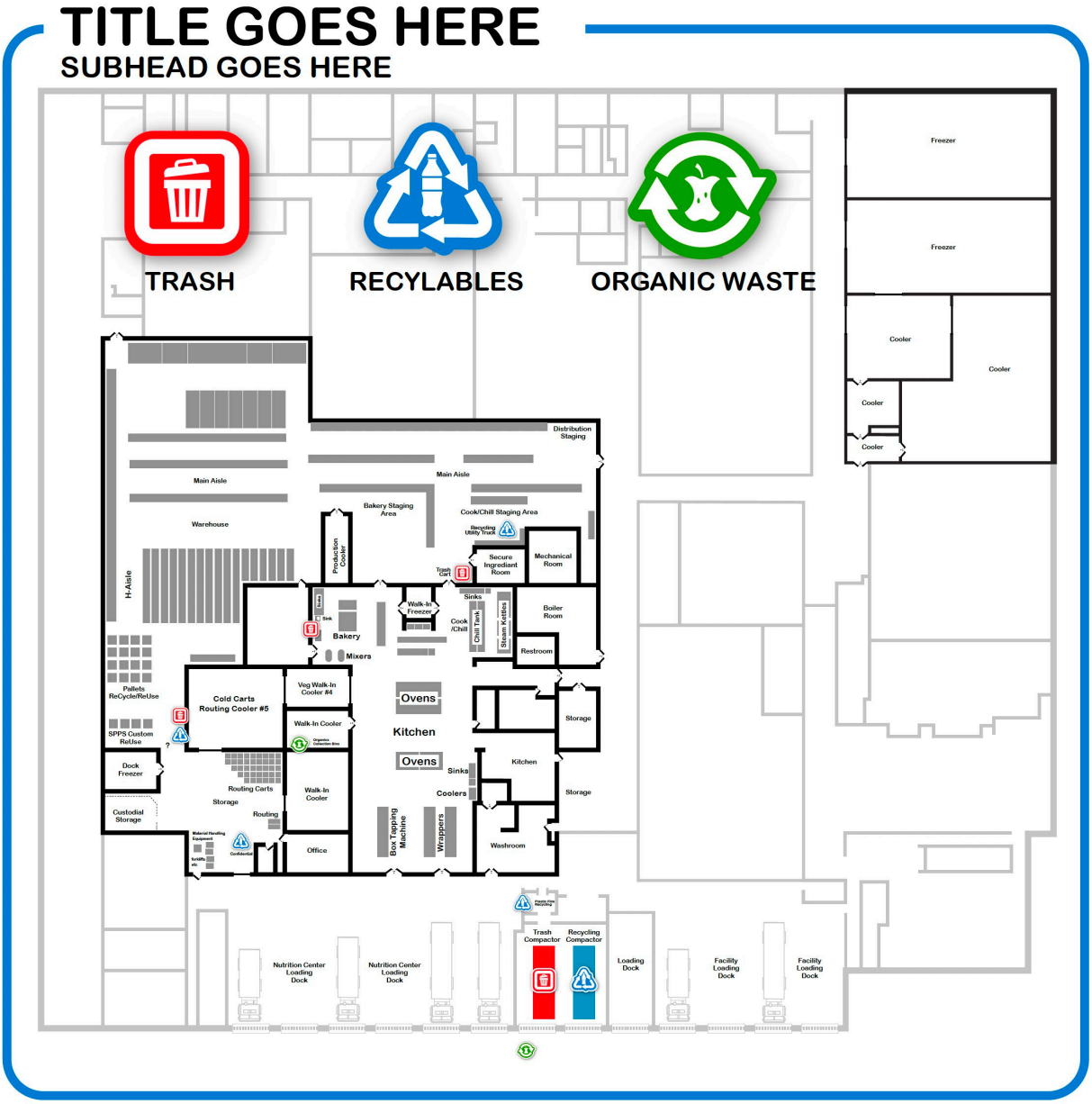
- Waiting: late arrival of necessary collection containers and equipment, idle staff time.

- Materials Transfer: non-standardized movement of materials in collection containers (trash, recycling, organics) for consolidation and interface with vendor services.

- Vendor Services: inefficient equipment, inadequate space at vendor points of service on loading dock.

NC Template

During this reporting period, the team worked with a graphic designer to develop a template of the NC that can be further developed into a Spaghetti Diagram. The NC template follows. This work is on-going and will be discussed in future progress reports.



Work with Purchasing Department to Establish a Methodology to Add Private & Charter Schools to the Hauler Contract for Trash, Recycling & Organics Services

In February 2022, the Facilities Department fully executed a new hauler contract 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 this 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 trash, recycling, and organics hauler services within SPPS district boundaries.
- Safer neighborhoods with less truck traffic and trucking noise.

With each Satellite School that is added to the contract, SPPS financial benefits include:

- Increased route density and a reduction in hauler overhead costs per SPPS school served.
- A potential increase from 75 SPPS service sites to 135 service sites within SPPS district boundaries.
- A long-term strategy to contain costs as this contract will become significantly more valuable when the time comes to issue the next RFP for hauler services.
- SPPS will increase its power in the marketplace by leveraging the total volume of K-12 school trash, recyclables, and organics generated within SPPS district boundaries.

Satellite Schools Interest

By July 2022, approximately ten Satellite Schools were interested in being added to this new contract. The team started to work with the Purchasing Department to develop a methodology to add on the first two charter schools. The goal is to establish a turn-key process that will minimize the amount of SPPS staff involvement and time. This work is on-going and will be discussed in future progress reports.

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 Phase 2 Goals. In addition, the team learned how to adjust to new norms impacting national procurement, local operations, academic needs, and food insecurity.

Next Steps

To honor the intent of the Zero^2 Plan, the team developed Phase 3 Goals, which include a renewed focus on several goals and the development of new goals. Phase 3 Goals are listed below, and the team will complete Progress Report #3 to summarize NS and Facilities Department outcomes for the reporting period, September 2022 through August 2023.

NS Environmentally Preferable Purchasing Guidelines (EPP Guidelines)

1. Collaborate with vendors to establish meaningful vendor commitments that support the Zero^2 Plan.
2. Collaborate with vendors to establish an annual plan to decrease waste.
3. Revise RFP language to establish meaningful vendor commitments that support the Zero^2 Plan.
4. 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.
5. NS will develop and implement a monitoring and tracking system tool to validate compliance with these guidelines.
6. Update multi-year goals and implementation schedule based on priorities, difficulty, and upcoming Requests for Proposals.
7. Report achievements under EPP Guidelines annually.

NS Environmentally Preferable Purchasing Goals (EPP Goals)

1. Find suitable containers that will allow the NC to transition from cardboard boxes to a reusable packaging system.
2. 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).
3. Establish a baseline for supply chain discards in the lunch program.
4. Update multi-year goals and implementation schedule based on the baseline for supply chain discards in the lunch program and other findings.

Reuse, Recycling, and Compost Collection for the NC and Schools

1. Expand the food rescue program.

2. Monitor disposable trays and cutlery use during meal service at schools.
3. Create a best management system for trash, recycling, and organics collection at EOS.
4. Create additional training content for NS supervisors and NSAs.
5. Re-launch a best management system for trash, recycling, and organics collection in school cafeterias.
6. 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 Phase 3 Goal, the team will continue to develop methodologies to measure the financial and environmental gains and/or benefits in comparison to the cost of implementation.