The ZERO^2 PLAN

Progress Report #3 on Zero Hunger & Zero Waste Solutions

The Post-Pandemic School Paradigm
September 2022 through August 2023

Prepared in Partnership With

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I. ZERO^2 PLAN HISTORY

Zero^2 Plan Adopted October 2019

Saint Paul Public Schools (SPPS) is home to 33,339 scholars attending 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.

Progress Reporting

From September 2019 to August 2022, NS and Facilities Department have been reporting on progress made toward achieving the goals of The Zero^2 Plan. Progress Reports #1 and #2 summarize the challenges, barriers, and advancements NS and Facilities Department made in achieving Phase 1 and Phase 2 Goals. During this time of the pandemic, several goals were achieved, some objectives were delayed, and other unexpected accomplishments occurred.

Phase 3 Goals: September 2022 to August 2023

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. As mentioned, goals are grouped into three main categories: EPP Guidelines; EPP Goals; and Reuse, Recycling and Compost Collection for the NC and Schools.

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 the Education and Operation Services (EOS) building.
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.

The purpose of this Zero^2 Plan Progress Report #3 is to summarize NS and Facilities Department outcomes for Phase 3 Goals and create Phase 4 Goals for September 2023 through August 2024.

II. THE POST-PANDEMIC SCHOOL PARADIGM

The lingering impacts of COVID-19 have created a post-pandemic paradigm under which K-12 schools operate child nutrition programs and generate waste.

In particular, there is an acute shortage of teachers and education support professionals (foodservice staff, custodians, paraprofessionals, bus drivers) throughout Minnesota's K-12 schools. Staff turnover and movement throughout the school district occurs frequently and impacts the continuity of K-12 schools working on waste reduction and recycling projects over time. A significant amount of time is required to start over with new staff and educate them on the waste reduction and recycling programs.

In addition, the volume of waste generated at schools remains high because many school communities have not fully recovered from, the:

- Multi-year increase for the demand of disposable foodservice ware due to safety concerns, staffing shortages, and/or alternative dining space requests.

- Discontinuation of cafeteria and school waste sorting programs.

Inflation and rising costs have strained K-12 school budgets across the country. Many Minnesota schools are facing budget cuts due to historic inflation. K-12 schools in Minnesota report soaring cost increases for trash, recycling, and organics hauler services.

In addition, many students, teachers, and education support professionals need additional education on how to separate materials in schools, resulting in frequent cross-contamination of materials streams. The pressure from staff shortages and staff turnover oftentimes distracts adults from taking the time to learn how to sort materials and teaching students "what goes where" in collection containers, resulting in contamination.

Zero Hunger 2022: Post-Pandemic Paradigm

In the wake of the COVID-19 pandemic, the 2022-2023 school year marked a significant milestone for the Zero Hunger, Zero Waste plan as schools were embracing a return to some normalcy. These changes included:

- Resuming the B2Go offer-versus-serve model, which meant children were allowed to select their breakfast foods in pick-up locations in their school prior to opening bell.

- Prepacked B2Go meals were discontinued.

- A return to reusable trays and cutlery when schools transitioned back to regular dining in the cafeteria for all students.

- Share tables were reopened, which allowed students an alternative to trash or compost foods they chose not to consume.

- All elementary and middle schools reintroduced waste sorting programs in the cafeteria (e.g., recyclables, organics, trash)

Unfortunately, natural disasters, supply chain disruptions, and staffing shortages continued to serve as daily challenges. 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. Hiring and retention incentives were introduced to address staffing shortages, which provided some relief. Overall, SY22-23 proved to be an opportune time to develop new norms that represent the ongoing post-pandemic reality.

Zero Waste in the Post-Pandemic Paradigm

This school year marked a turning point for waste, as most SPPS schools returned to normal meal services, offerings, and waste sorting following a long period of disruption due to the pandemic. During this phase of the plan, the focus was able to shift away from focusing so intently on zero hunger, to have a renewed commitment to the waste reduction and diversion goals in our Zero^2 plan.

With the resumption of in-person learning at full capacity, many schools started the school year with a waste, recycling and organics sorting program in their school cafeteria. Throughout the school year, all of our elementary and middle schools reinitiated waste sorting programs in their cafeterias. Building upon the programs in elementary and middle schools, plans for the reintroduction of waste sorting programs in high schools are underway for the upcoming school year, recognizing the unique challenges posed by their larger student populations and consequent waste volumes.

Meanwhile, custodial staff were at the forefront of efforts to balance between increased cleaning demands and the restoration of waste sorting programs in schools. By optimizing schedules and implementing efficient cleaning practices, custodial staff maintained a clean, safe environment while supporting the reintroduction of waste sorting initiatives. During this time, a main priority was to focus on getting sorting systems back in place to divert waste, then accomplish Zero^2 Plan Phase 3 goals whenever possible.

III. PROGRESS ON ENVIRONMENTALLY PREFERABLE PURCHASING GUIDELINES

EPP Guidelines encompass the principals and intended outcomes directly associated with purchasing food and supplies. A summary of the goals written for the EPP Guidelines, from September 2022 to August 2023, is provided in Table 1.

Table 1. NS Progress in Achieving Environmentally Preferable Purchasing Guidelines

PHASE 2 GOALS	PROGRESS
#1 – Collaborate with vendors to establish meaningful vendor commitments that support the Zero^2 Plan.	Task completed. A produce vendor was able to transition from individual boxes to cardboard gaylords to reduce total cardboard packaging for bulk produce. This vendor is also working with SPPS to reduce cardboard and packing for non-bulk items in the SY 24-25.
#2 – Collaborate with vendors to establish an annual plan to decrease waste.	In progress. As mentioned, NS' primary produce distributor is collaborating with the team to reduce cardboard packaging. In addition, a supply vendor dedicated several months to designing and launching a compostable breakfast bag. To support more vendors in future success, NS created an annual score card for vendors, which will be distributed starting January 2024 to vendors.
#3 – Revise RFP language to establish meaningful vendor commitments that support the Zero^2 Plan.	Task completed. New RFP language was established and applied in the spring of 2022, which preceded the fresh bakery items and dairy/juice contract awards. This language will also be applied to contract renewals beginning spring 2024.
#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. A produce vendor was able to transition from individual boxes to cardboard gaylords to reduce total cardboard packaging for bulk produce. A supply vendor was able to offer a compostable breakfast bag, which arrived in May 2023.
#5 – NS will develop and implement a monitoring and tracking system tool to validate compliance with these guidelines.	In progress. An annual score card has been developed for vendors, which will be distributed starting January 2024 and utilized in focused discussions with each vendor in FY24.
#6 – Update multi-year goals and implementation schedule based on priorities, difficulty, and upcoming Requests for Proposals.	Task completed.
#7 – Report achievements under EPP Guidelines annually.	Task completed.

Food & Supply Shortages

Food and supply shortages continue to affect school districts across the nation. Most schools expected the food industry to rebound after the pandemic, but this industry continues to face challenges due to natural disasters, labor and trucking shortages, and supply chain disruptions (e.g. materials and/or foods for manufacturing). The reality is that the entire food industry (farmers, manufacturers, drivers) is still confronted with setbacks that require patience, commitment and flexibility among all stakeholders to ensure program requirements are met and that school meals remain as well rounded as possible.

At SPPS, there were multiple shortages each week that required the department to make unexpected shifts to provide a complete and wholesome meals to students. Struggles included:

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

NS Response to Shortages

NS took numerous actions to improve 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 8 or more weeks in advance (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:

- 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 resumed traditional practices. While many of these disruptions continue today, the team has renewed efforts to build tools and resources that support progress through partnerships with vendors and manufacturers.

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. A summary of the outcomes for the EPP Goals, from September 2022 to August 2023, is provided in Table 2.

Table 2. NS Progress in Achieving Environmentally Preferable Purchasing Goals

PHASE 2 GOALS	PROGRESS	
#1 – Find Suitable Containers That Will Allow the NC to Transition from Cardboard Boxes to a Reusable Packaging System **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 multiple new models, which included metal baskets, plastic bins, and collapsible containers 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 is continuing to test new products and seek a viable solution.
#2 – Develop a New Breakfast Container Program for Schools that will Result in the Least Amount of Waste Generated & Discarded as Trash (By Allowing Schools to Select Plastic, Compostable or Reusable Containers Based on their School's Breakfast Waste Management) **Targets the reduction of 25.3 tons of plastic and 1.8 tons of cardboard boxes a year.**		NS worked with a supply vendor to build a compostable breakfast bag that was suitable for B2Go. The manufacturing process and lead time consumed several months of SY 22-23. The first order of compostable bags was delivered on May 17, 2023. NS is currently working with the Facilities department to refine and launch a hallway compost program, which will include school-specific commitments based on the school's willingness and ability to manage hallway sorting at breakfast.
#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**		Work on this goal was initiated in December 2022 and then delayed due to the pandemic. In July 2023, the team restarted this work which includes sampling, documenting, weighing, and recording data for the food, supplies, and waste associated with the school lunch program at the NC and schools. This work is now on track and should be completed by the end of the school year. Findings from this task will be used to develop new Zero^2 Plan goals and targets.

V. PROGRESS ON REUSE, RECYCLING & COMPOST COLLECTION GOALS

Reuse, Recycling, and Compost Collection for the NC and Schools Goals encompass the methods and intended outcomes directly associated with waste management by students and staff. These goals target reuse and collection systems for trash, recycling, organics, and food donations. A summary of the outcomes for these goals, from September 2022 to August 2023, is provided in Table 3.

Table 3.
NS and Facilities Progress in Achieving Reuse, Recycling & Compost Collection Goals
September 2022 to August 2023

REUSE, RECYCLING & COMPOST COLLECTION PHASE 2 GOALS	PROGRESS
#1 – Expand the Food Rescue Program	Task completed. NS collaborated with Second Harvest to make the MealConnect® food rescue program easier and more reliable. This led to creating new tools and training materials for all staff. NS updated the food donation standard operating procedure within this framework. All supervisors and managers received training in April and August of 2023. This work is on-going due to staff turnover and building plans.
#2 – Monitor Disposable Trays & Cutlery as Normal Meal Service Resumes at Schools	Task completed. Within the scope of this project, NS updated the Use of Disposable Products standard operating procedure to provide more clarity surrounding the expectations to use reusable trays and cutlery on a daily basis, and to ensure disposable products are reserved for use during emergencies or staffing shortages that warrant a temporary substitution. Approval is required prior to substituting reusable trays and cutlery with disposable products. Staff received training in November 2022 and September 2023.
#3 – Create a Best Management System for Trash, Recycling & Organics Collection at EOS	The team continued to work on this goal by partnering with a graphic designer to complete the "spaghetti diagram," which is a detailed map of waste management throughout the building. This resource is rooted in designing visual aids and training materials for all staff.
#4 – Create additional training content for NS supervisors and NSAs.	Task completed. NS supervisors received refresher training in November 2022, January 2023, and April 2023 on reusable trays and cutlery, share tables, and the food rescue program; respectively. In addition, NS supervisors and NSAs were provided Back to School training in September 2023, which included new and refresher training for share tables, food donations, and reusable trays and cutlery.
#5 – Re-Launch a Best Management System for Trash, Recycling & Organics Collection in School Cafeterias	Cafeteria waste sorting was reinstated at all elementary and middle schools that have previously participated in the program. High Schools are planned to relaunch during the 23-24 school year.
#6 – Work with Purchasing Department to Establish a Methodology to Add Private & Charter School to the Hauler Contract for Trash, Recycling, Organics Services	The team worked with Purchasing and Legal to develop a process for adding satellite schools. This included creating templates for satellite school agreements and notification letter for our waste hauler. Facilities initiated the process of adding 2 satellite schools in August of 2023.

Expanding the Food Rescue Program

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 non-profit organizations that mitigate food insecurity.

MealConnect® was successfully implemented at the NC and multiple schools in the fall of 2019. Staff receive new and refresher training each year on the software program and food handling requirements. New staff receive individual training. Since the inception of the Zero^2 Plan, NS has donated a total of 109,408 pounds of surplus, nutritious to people in need (see Table 4).

Table 4. NS Food Rescue Program

Reporting Period	MealConnect® Donations (pounds)
September 2019 to August 2021	36,922
September 2021 to August 2022	36,922
September 2022 to August 2023	35,564
TOTAL	109, 408 lbs. or 54.7 tons

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. In addition, the primary issue that results in a failed donation results from transportation issues at the partner's level. For example, an organization may be willing to retrieve a food donation only to face a transportation or staffing barrier that leads them to abandon or cancel pick up. This has been identified as a key consideration for new collaboration between Second Harvest and SPPS.

Create a Best Management System for Trash, Recycling & Organics Collection 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 that describes the step-by-step process taken to optimize the recovery of recyclables and organics from the waste stream.

During this reporting period, the team completed the NC Spaghetti Diagram.

NC Spaghetti Diagram

The NC Spaghetti Diagram is provided on the next page and illustrates the materials transfer system for discarded waste, recyclables, and organics. The transfer of discarded materials occurs along two routes – one for NS staff and one for Facilities Department staff. The routes pass through three (3) main areas:

1. The loading dock.
2. Warehouse; and
3. Production kitchen.

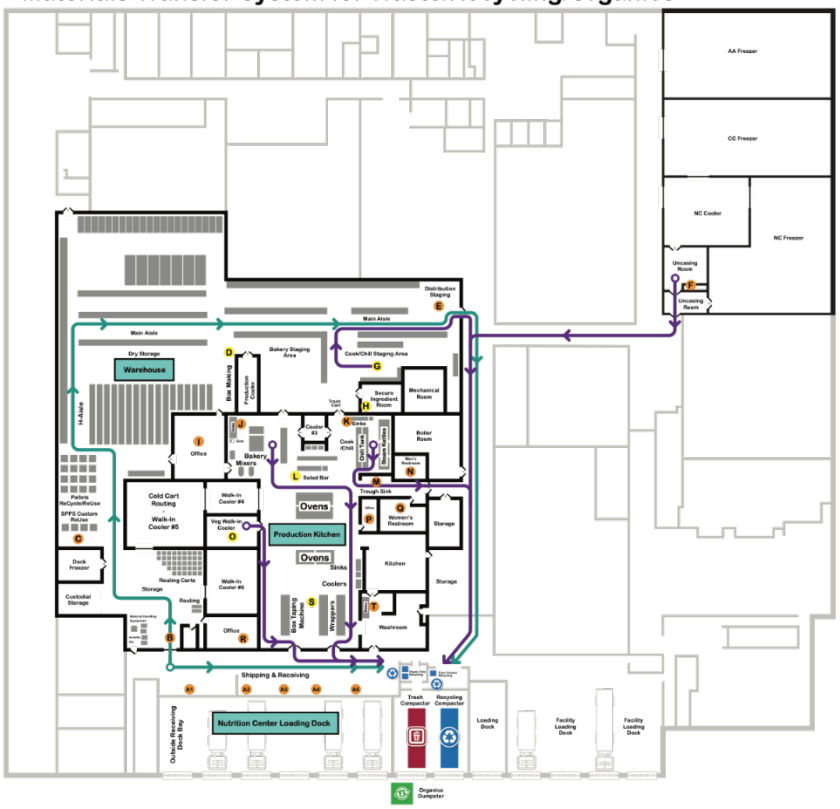
Discarded materials are collected at two (2) types of sort stations:

1. Stationary sort stations; and
2. Traveling sort stations that move according to food production schedules.

Both materials transfer routes end at the same destination where vendors provide services to pick up and transport waste, recyclables, and organics to disposal and processing facilities.

SPPS Nutrition Center

Materials Transfer System for Waste/Recycling/Organics



LEGEND

MATERIALS TRANSFER ROUTES

- Facilities Department
- Nutrition Services

VENDOR SERVICES

- Recycling
  - Single Stream (Compactor)
  - Plastic Film
  - Fryer Grease
- Organics
- Trash

SORT STATIONS

- Stationary Sort Station
- Traveling Sort Station

NC LOADING DOCK	WAREHOUSE	PRODUCTION KITCHEN
A1 A2 A3 - Shipping & Receiving A4 A5	B - Confidential Documents C - Pallet Storage D - Box Making E - Distribution Staging F - Uncasing Room	G - Cook/Chill Staging Area H - Secure Ingredient Room I - Office J - Bakery Sink K - Cook/Chill Sink L - Salad Bar M - Trough Sink N - Men's Restroom O - Veg Walk-In Cooler P - Office Q - Women's Restroom R - Office S - Box Taping/Wrapper Area T - Washroom Sink

VI. SUMMARY & NEXT STEPS

The 2022-2023 school year marked a significant milestone for the Zero2 plan with a renewed focus on our goals in a post-pandemic paradigm. SPPS resumed normal operations, shifting back to eating in the cafeterias, using reusable trays and cutlery, reopening share tables, reinstating the offer model for breakfast serving, and reintroduction of waste sorting programs. Despite food supply chain issues, staffing shortages, and financial challenges impacting daily operations for schools and district departments, team members accomplished success for many of the Zero^2 goals.

Next Steps

To honor the intent of the Zero^2 Plan, the team developed Phase 4 Goals, which include a renewed focus on several goals and the development of new goals. Phase 4 Goals are listed below, and the team will complete Progress Report #4 to summarize NS and Facilities Department outcomes for the reporting period, September 2023 through August 2024.

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, and measure vendor performance with the new annual scorecard that will be shared with vendors as part of regular communication and partnership.
3. Utilize new RFP language to establish new 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. Utilize the new monitoring and tracking system tool to validate vendor compliance with these guidelines, which will include an annual scorecard for vendors.
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. Complete 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.
5. Find suitable containers that will allow NS to eliminate one-way transport packaging for produce and expand the use of reusable containers for other food products when possible.

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

1. Maintain daily use of the food rescue program in schools and the NC and collaborate with Second Harvest to identify solutions that address transportation and staffing barriers.
2. Monitor disposable trays and cutlery use during meal service at schools.
3. Launch 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. Pilot a centralized collection system for trash, recycling and organics in office and administrative buildings.
7. Pilot a centralized collection system for trash, recycling and organics to capture B2Go waste.
8. 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 4 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.