THE ZERO^2 PLAN:

ZERO HUNGER & ZERO WASTE SOLUTIONS

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Prepared In Partnership With

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Project Contacts

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

	Saint Paul Public Schools Nutrition Services	**Saint Paul Public Schools Facilities Department**
	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
		Jodi Taitt, MS Founder / TRUE Zero Waste Advisor 8457 Meadow Lake Road North Minneapolis, MN 55428 763-504-2445 jodi@ecoconsilium.com

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I. OVERVIEW

With an enrollment of approximately 37,000 students, Saint Paul Public Schools (SPPS) Nutrition Services (NS) operates one of the largest, federally funded Child Nutrition Programs in Minnesota. Known for its healthy, locally sourced and culturally relevant menu options, SPPS NS serves over 8.4M meals each year. This also makes SPPS NS one of the largest food service establishments in Saint Paul.

The Zero² Plan

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. SPPS NS believes basic nutrition is the right of every person and no child should worry about where their next meal will come from. SPPS NS pledges to end hunger, increase food security and improve nutrition over the next ten years by providing reliable and convenient access to no-cost meals for all children in Saint Paul.

The public policies under which SPPS NS operates have unintentionally, and significantly, increased the amount of waste schools produce. In 2019, SPPS generated almost 6K tons of districtwide waste. Alongside the fundamental need to end hunger, SPPS NS is committed to reducing the amount of waste its meal programs produce by 2029 and will examine:

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

The goal of the SPPS NS Zero² Plan is to operate federally funded meal programs in a manner that embraces zero hunger and zero waste solutions.

Project Phase 1

Phase 1 of this ten-year project will dramatically transform the B2Go Program, Nutrition Center operations, and school recycling and compost programs. The project approach utilizes zero waste strategies and tactics intended to make measurable progress towards reducing 633 tons of B2Go Program waste generated each year. The stated goals of an environmentally preferable purchasing plan, and reuse, recycle and compost collection systems are integrated and dependent upon one another. This report establishes 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.

II. ABOUT US

SPPS is one of Minnesota's largest school districts. 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. SPPS operates 56 schools and programs in 73 buildings; manages 7.5M square feet of facilities; and occupies 500 acres of land.

SPPS Nutrition Services

SPPS NS serves more than 3.5M breakfasts, 4.7M lunches, 232K snacks and 273K suppers a year. As one of the largest school nutrition programs in Minnesota, SPPS NS brings a food system together through a comprehensive, integrated network of farmers, vendors, suppliers and distributors. The deep connections that exist among the members of the SPPS NS food system are interdependent, and there is a mutual reliance among all stakeholders that ultimately contributes to the vitality of the communities in which they reside.

Breakfast, lunch, snack and supper programs are organized in schools, parks, recreational sites, libraries, churches, community centers and housing complexes throughout Saint Paul. Many sites are open during summer months and food trucks help reach children who face transportation barriers. These meal programs ensure no child has to worry where their next meal will come from.

Mission & Vision

SPPS NS' vision is to eliminate hunger and provide every child with HOPE (healthy options and positive engagement) through exceptional food. The mission that supports this vision is founded on the following:

- Create a positive culture through recruitment, hiring and training.
- Procure healthy, sustainable, high-quality food and supplies.
- Provide dependable access to delicious no-cost meals to all children in Saint Paul.
- Nurture relationships with children, parents and community.
- Support lifelong learning.

Nutrition Center

SPPS NS is unique because it operates a central production kitchen. The Nutrition Center is the hub of all school and community meal programs. There is only one other central kitchen like it in Minnesota. SPPS NS uses the Nutrition Center to cook and deliver wholesome foods (see Figure 1). The kettle team prepares entrees, baked goods, soups, gravies and sauces from

scratch. The bakery team makes home-made pizza crusts, French bread, rolls, muffins and breakfast rounds. There is also a central team that packages, routes and distributes all of this food through warehouse and delivery drivers.

Figure 1. Nutrition Center Staff Prepare Menu Items for B2Go Program

III. CHILD NUTRITION PROGRAMS

In the United States, Child Nutrition Programs are a group of programs funded by the federal government to support meal and milk service programs for children. The purpose of these programs is to prevent malnutrition and provide a foundation for good nutritional health. As summarized in the 1946 enabling legislation, school meals were instituted "as a measure of national security to safeguard the health and wellbeing of the nation's children and to encourage domestic consumption of nutritious agricultural commodities and other food."

The United States Department of Agriculture (USDA) is the regulatory body that oversees Child Nutrition Programs. A significant reform to standards occurred in 2010 through the Healthy, Hunger-Free Kids Act. The Healthy, Hunger-Free Kids Act revolutionized the critical nutrition and hunger safety net for millions of children and included rigorous new nutrition standards for school meals. While schools have some flexibility in designing menus for students, they are still required to plan each menu in accordance with USDA guidelines. Guidelines encompass program administration, budget requirements, and procurement standards.

Program Administration

SPPS NS crafted an evidenced-based Menu Philosophy to ensure all menus meet or exceed USDA's nutrient standards. Furthermore, the Menu Philosophy conveys preference to whole, natural, nourishing foods, and the commitment to eliminating ingredients that adversely affect health by serving more wholesome foods in their place. Every menu is a collaborative culinary art that must:

- Include culturally relevant and appealing foods, with a focus on scratch cooking.
- Be conscientious of food allergies, sensitivities, and intolerances.
- Provide locally sourced agricultural products.
- Reflect environmentally sustainable choices for food and supplies.
- Meet or exceed USDA requirements set forth in the Healthy Hunger-Free Kids Act.
- Reflect SPPS NS dedication and commitment to fiscal responsibility.

SPPS NS provides meals and snacks through the following federally funded meal programs:

- National School Lunch Program – provide nutritionally balanced, low-cost or no-cost lunches to children and adolescents each day.

- Provision 2 Breakfast – a universal breakfast program that allows all students to receive breakfast at no cost.

- Community Eligibility Provision (CEP) and Provision 2 Lunch – meal programs that allows all students in participating schools to receive lunch at no cost regardless of household income.

- USDA Approved A La Carte (Smart Snacks) – foods and beverages sold outside of school meal programs during the school day.

- At-Risk Child and Adult Care Food Program – after school snack and supper programs at school and community locations.

- Fresh Fruit and Vegetable Program (FFVP) – a grant program that provides fresh fruit and vegetable snacks for qualifying elementary schools.

- Minnesota Kindergarten Milk Program – provides milk between meal services to kindergarten students in participating schools.

- Summer Food Service Program (SFSP) – provides breakfast, lunch, supper and/or snacks during summer months.

Current highlights of SPPS NS Child Nutrition Programs include:

- 65.7% of SPPS students qualify for free or reduced-price meals.

- Every student receives a healthy breakfast at no cost through the B2Go Program.

- Students in 39 schools receive a nutritious lunch at no cost through the CEP and Provision 2.

- After-school snacks and suppers are available at more than 80 locations throughout Saint Paul.

- FFVP is administered in 27 elementary schools.

- Summer meals are available at more than 70 locations.

- Three charter schools in Saint Paul receive meal services from SPPS NS.

To reach children throughout Saint Paul, SPPS NS partners with parks, recreational sites, libraries, churches, community centers and housing complexes to coordinate meal service after school and during summer months. There is a combined total of over 8.4M meals served each year among all school and community sites.

Budget

The annual budget for SPPS NS is over $29.2M, and the Program is expected to be self-supporting. Therefore, SPPS NS manages its own food service account without additional monetary support from the school district's general fund. A breakdown of the annual budget based on fiscal goals is provided in Table 1. If the Program is not reaching the break-even point, or the point at which revenues meet Program costs, SPPS NS must take steps to move its budget toward equilibrium.

Table 1. SPPS Nutrition Services Annual Budget

Category	Fiscal Goal (as a % of budget)	Budget Amount
Food Cost	38.5%	$11,259,516
Supply Cost	3%	$877,364
Labor Cost	48.5%	$14,184,066
Equipment Cost	2%	$584,909
Indirect Cost	8%	$2,339,639
	100%	**$29,245,494**

Procurement

SPPS NS has two procurement categories: (1) commercial products and supplies; and (2) USDA Foods. All purchases of food, supplies, goods and other services with Program funds must comply with procurement standards prescribed by USDA.

COMMERCIAL PRODUCTS & SUPPLIES

Under local, state and federal regulations, purchases of commercial products and supplies follows two different processes depending on cost levels:

1. **An Informal** procurement process can be used when the cost of goods or services is at or below:

a. $0 to $3,499: The Program can purchase within this threshold on the open market.

b. $3,500 to $49,999: The Program must obtain at least two quotes for the purchase.

2. **A Formal** competitive sealed bid (IFB) or competitive proposal (RFP) must be used when the cost of goods or services are:

   a. $50,000 to $174,999: The Program and Purchasing Department work together to manage this process and approve the purchase.

   b. $175,000+: The Program, Purchasing Department and SPPS Board of Education work together to review and approve the purchase.

The procurement method is determined by the anticipated purchase amount.

USDA FOODS

USDA Foods, also known as commodities, are foods purchased by USDA and sold to schools at minimal cost. Because of the federal government's purchasing power, USDA Foods are often lower in price than similar products a school could purchase on its own. USDA Foods include both raw and processed foods, which can be used as a menu item or recipe ingredient.

Each year the federal government provides an entitlement to schools for USDA Foods. These funds are administered by USDA, and funding is based on the number of school lunches served in the previous school year. The transaction between USDA and school districts includes an annual award of dollars to be used on commodity foods.

There are multiple distribution channels for schools to utilize their annual USDA Foods entitlement. Regardless of the channel, schools are required to select their products through a state-administered survey, which is usually conducted in March for the next school year. The main channels include:

1. **Direct Delivery (USDA Foods or "Brown Box"):** available domestic agricultural products from America's producers, selected by survey, and shipped directly to schools. These products are not diverted to processors for further processing and include but are not limited to canned or frozen fruits and vegetables, sliced or shredded cheeses, pre-cooked un-breaded chicken strips and raw ground beef.

2. **Department of Defense Fresh Fruit & Vegetable Program Ordering:** the only food distribution channel that enables schools to use their entitlement to procure a wide variety of domestically grown fresh produce delivered directly to schools.

3. **Pass Through Value Methods:** a process where USDA Foods are diverted to a processor in order to make value-added or further-processed foods, including:

   a. Fee-For-Service Processors (FFS): where schools divert unprocessed foods to a manufacturer to be used as an ingredient for a specific food the school wishes to

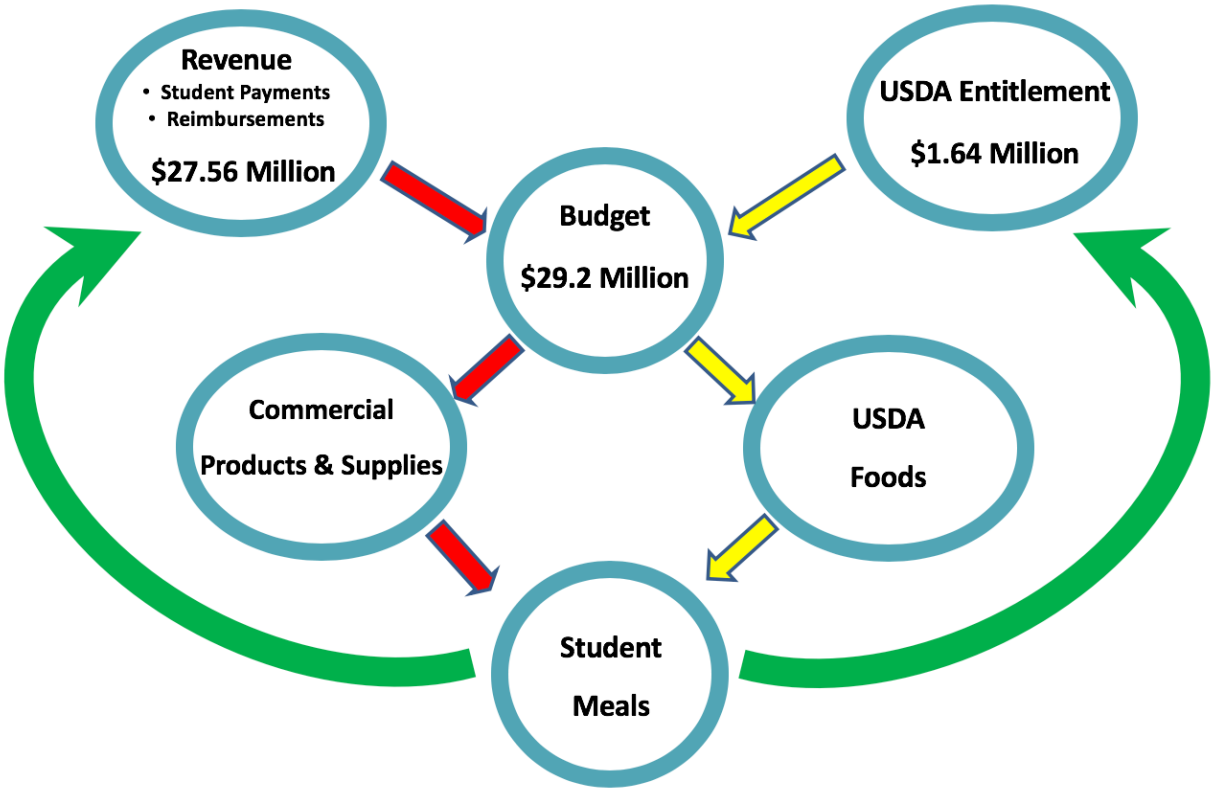
purchase. Schools only pay service fees for processing. An example is diverting raw ground beef to be made into hamburger patties.

b. Net Off Invoice (NOI): like FFS, schools divert unprocessed foods to a manufacturer to be used as an ingredient for a specific food. However, the distinguishing difference is that schools pay for the full cost of the food and service at the time of purchase and receives a discount on their invoice (for the value of the USDA Food ingredient) upon proof of delivery. An example is sending potatoes to a processor to make potato wedges.

SPPS NS' current entitlement for USDA Foods is approximately $1.64M, which is 5.6% of its annual budget.

Figure 2 illustrates the budget requirements and procurement standards for the SPPS NS Child Nutrition Programs.

Figure 2. SPPS NS Child Nutrition Programs



IV. ZERO HUNGER STRATEGIES & TACTICS

Childhood hunger is a serious and prevalent issue that can affect a child's daily life and their long-term ability to succeed. According to Share Our Strength, a national organization to end childhood hunger in the United States, one in eight children in Minnesota struggle with hunger. When a child is hungry, anxiety and poor behavior rise, learning is compromised, and physical and mental development can be affected. Child Nutrition Programs are tools to fight hunger and nourish the minds of students.

School Breakfast

It is important for every child to start the school day with a healthy breakfast, which prepares them to learn. Studies show that school breakfast improves student achievement, reduces behavioral issues and improves student health.

- Research indicates students who skip breakfast generally have slower memory recall, make more errors and are more likely to be absent or tardy and to repeat a grade. Students who eat breakfast generally have better vitamin and nutrient intake, enjoy overall healthier diets and are less prone to being overweight or obese.

- Limited food budgets, challenges with early work schedules and transportation, or children who will not eat early in the morning make it difficult for many families to provide a healthy breakfast every morning. Too often children arrive at school without the fuel they need to be active participants in the classroom.

- Barriers, including stigma and transportation logistics, can negatively impact school breakfast participation, which is why schools must support fun, creative, low-cost ways to increase access and participation in school breakfast.

Most SPPS students start their school day with the school breakfast program, which plays a crucial role in ensuring students have the fuel they need to focus and excel.

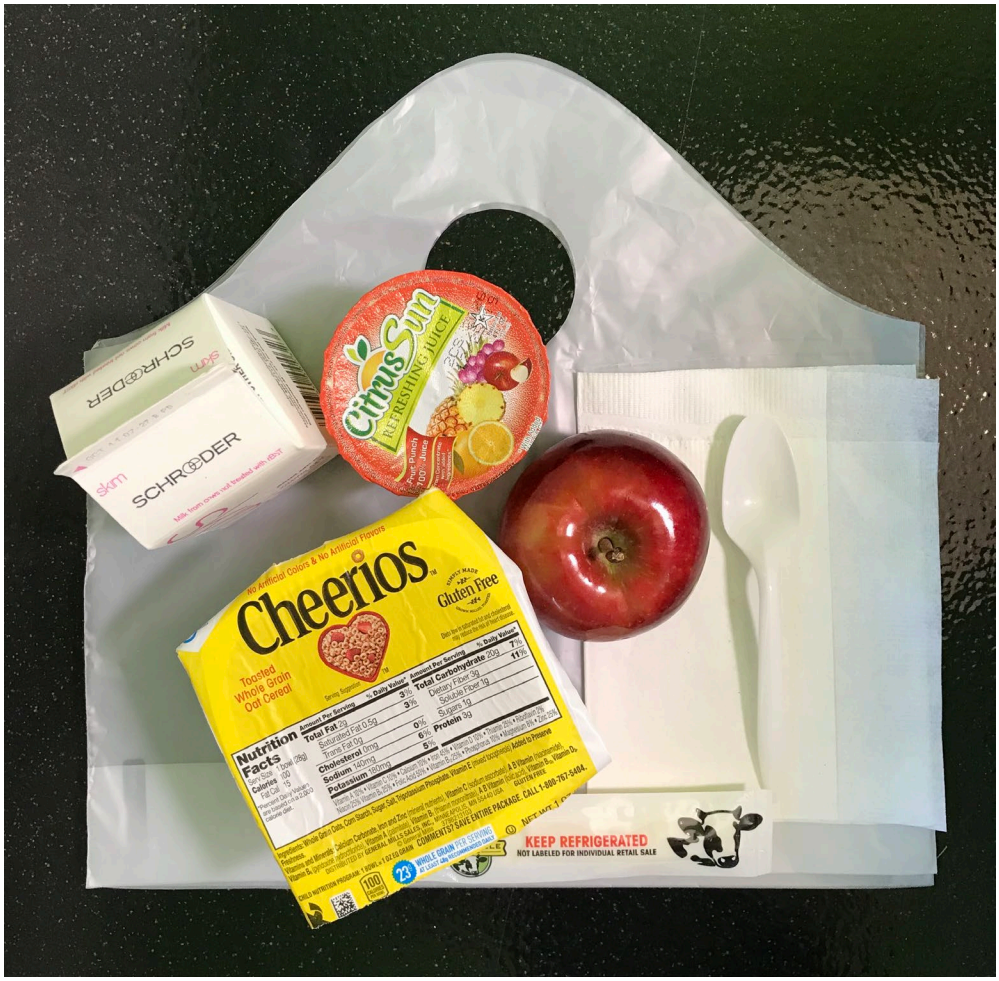
B2Go Breakthrough

Holding breakfast in classrooms was one of the key breakthroughs to addressing hunger and increasing food security. As summarized in Table 2, SPPS NS introduced B2Go about 10 years ago in just one school. At that time, only 37% of SPPS students were eating breakfast at school. B2Go was expanded to the entire district over the next three years, and breakfast participation now exceeds 60% for enrolled students. Today, SPPS NS serves almost 20K breakfasts each day. The B2Go meal concept allows students to choose their desired breakfast foods when they enter their school, which students collect in single-use plastic bags and carry to their classrooms to enjoy while teachers begin the instructional day (see Figure 3).

Table 2. History of SPPS Breakfast Program

School Year	Number B2Go Schools	SPPS Breakfast Participation
2008 – 2009	1	37%
2009 – 2010	27	43%
2010 – 2011	51	56%
2011 – 2012	62	64%

Figure 3. B2Go Meal Concept



SPPS NS Pledge to End Hunger

Healthy food is a human right. SPPS NS believes basic nutrition needed to sustain a healthy, fulfilling life is the right of every person; not a privilege reserved for just some people. SPPS 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 no-cost meals for all children in Saint Paul.

Unintended Consequences

The public policies in place to encourage healthy consumption in Child Nutrition Programs are unintentionally, and significantly, increasing the amount of waste generated in schools. School meals are prone to food waste that adds tons of uneaten substance to discarded resources. In the USDA School Nutrition and Meal Cost Study published in April 2019, it was determined that plate waste for lunches was highest for vegetables – an average of 31% – followed by milk (29%), fruits and fruit juice (26%) and separate or side grains/breads (23%).

In September 2010, the Minnesota Pollution Control Agency conducted a waste composition analysis of trash, recycling and organic material discarded at public schools in Minnesota and published the results in the report, "Digging Deep Through School Trash." The single most prominent waste material generated by schools was food waste – 24% of the total waste generated. The report concluded that substantial components of the waste stream in Minnesota schools could be reduced, recycled or composted. In addition, this study pointed to opportunities to reduce overall waste generation by adopting additional waste prevention strategies and implementing expanded use of reusable items.

In 2019, SPPS generated 5,949 tons of waste throughout the school district. SPPS NS accepted the challenge to study how much of the total waste is generated by its meal programs, and on-going assessments will be the focus of comprehensive solutions to reduce waste.

V. ZERO WASTE STRATEGIES & TACTICS

The Zero Waste International Alliance defines zero waste as:

> The conservation of all resources by means of responsible production, consumption, reuse, and recovery of products, packaging, and materials without burning and with no discharges to land, water, or air that threaten the environment or human health.

Alongside the fundamental need to end hunger, SPPS NS is committed to applying the principles of zero waste strategies and tactics to reduce the amount of waste generated across all meal programs by 2029. SPPS NS will examine the following programs and operations over the next ten years:

- Breakfast to Go Program
- School Lunch Programs
- After-School Snack and Supper Programs
- Nutrition Center Operations
- School Recycling and Compost Programs

While all school meals are deserving of attention, breakfast was the most logical starting point. The B2Go Program findings will serve as the cornerstone to the zero waste strategies and tactics SPPS NS will employ to accomplish measurable outcomes in reducing waste.

B2Go Project Overview

B2Go waste is generated in production, throughout distribution, in classrooms and throughout school buildings. The B2Go meal concept relies on foods that are packaged and easy for students to transport, which result in waste. SPPS currently operates recycling and compost collection systems in all school cafeterias. However, students are not separating B2Go recyclables and organics from the waste stream, and all B2Go classroom discards are managed as trash.

In response to a fundamental concern about waste, and growing concern within the community about the amount of B2Go waste being disposed in trash collection, SPPS NS and Facilities Department partnered with the consulting firm, EcoConsilium, to form a Project Team and:

- Document all USDA Foods and commercial products and supplies purchased for the B2Go Program.

- Document the step-by-step logistics of receiving and moving USDA Foods and commercial products and supplies throughout the districtwide B2Go supply chain and identify the sources and types of waste generated at each step.

- Develop purchasing goals for upstream strategies to reduce waste before students consume B2Go meals, and downstream strategies to capture recyclables and organics for compost after students consume B2Go meals.

- Ensure reduction in waste materials are documented from an established baseline to quantify the financial and environmental benefits of ongoing reduction, reuse, recycling and composting efforts.

- Establish regular reviews of waste reduction, reuse, recycling and composting outcomes and cost savings.

The outcomes of this project: (1) identify opportunities to reduce and reuse before recycling and composting; (2) identify products and supplies that have excessive or unnecessary packaging; (3) explore opportunities to design out or eliminate wasting from vendors and suppliers; and (4) identify opportunities to optimize the use of existing recycling and compost collection systems at the Nutrition Center and schools to manage B2Go waste.

VI. B2GO SUPPLY CHAIN

The B2Go supply chain is a collection of steps that SPPS NS takes to transform food ingredients, food products and foodservice supplies into B2Go meal events. These steps include:

Procurement

- Design diverse menu options that are in accordance with USDA regulations.
- Purchase food products and foodservice supplies in accordance with local, state and federal requirements.
- Receive food and foodservice supplies from a variety of sources including the Nutrition Center.

Food Production & Packaging

- Prepare many menu items from scratch at the Nutrition Center.
- Package and box scratch cooking menu items at the Nutrition Center.

Shipping & Receiving

- Transport food products and foodservice supplies from vendors and suppliers to the Nutrition Center.
- Transport menu items and food products from the Nutrition Center to schools.
- Transport food products and foodservice supplies from vendors and suppliers directly to schools.

Warehousing

- Store food products and foodservice supplies at the Nutrition Center.
- Store menu items cooked from scratch and packaged at the Nutrition Center.

Staging & Routing

- Build pallets and fill delivery carts with menu items, food and foodservice supplies for each SPPS truck route at the Nutrition Center.
- Stage pallets and delivery carts for daily distribution to each school.

School Kitchens & Cafeteria

- Store food products and foodservice supplies received at schools in coolers, freezers and storerooms.
- Prepare and serve B2Go meals at schools.

School Classrooms

- Oversee B2Go meal consumption for students.
- Work with students to transfer B2Go waste to trash collection containers.

Highlights of the B2Go supply chain follow.

Food Production & Packaging

The Nutrition Center prepares the following menu items for the B2Go Program from scratch:

- Smart Rounds (nutritious breakfast cookies).
- Sunrise Sandwiches (four varieties of homemade breakfast sandwiches).

Nutrition Center staff place each item in a plastic food wrapper, assemble cardboard boxes and package wrapped items in cardboard boxes. There are approximately 100 Smart Rounds packaged per box and 50 Sunrise Sandwiches per box (see Figures 4, 5 and 6).

Shipping & Receiving

To transport products and foodservice supplies for the B2Go Program, SPPS NS operates three types of shipping and receiving systems as illustrated in Figure 7:

1. **An open loop shipping system** where products and foodservice supplies are shipped from vendors and suppliers to the Nutrition Center (purple arrow).
2. **A closed loop shipping system** where delivery carts and pallets of food products and foodservice supplies are shipped from the Nutrition Center to 67 schools on seven truck routes. Empty delivery carts and pallets are returned to the Nutrition Center to begin the entire process again (yellow arrows).
3. **An open loop shipping system** where products and foodservice supplies are shipped from vendors and suppliers directly to schools (red arrow).

In Figure 8, Nutrition Center staff have loaded a truck with delivery carts and pallets of food products and foodservice supplies to be transported to schools. Custom-size pallets are required for shipments.

Figure 4. Smart Round Packaging

Figure 5. Sunrise Sandwich Packaging

Figure 6. Cardboard Box Assembly

Figure 7. B2Go Shipping & Receiving

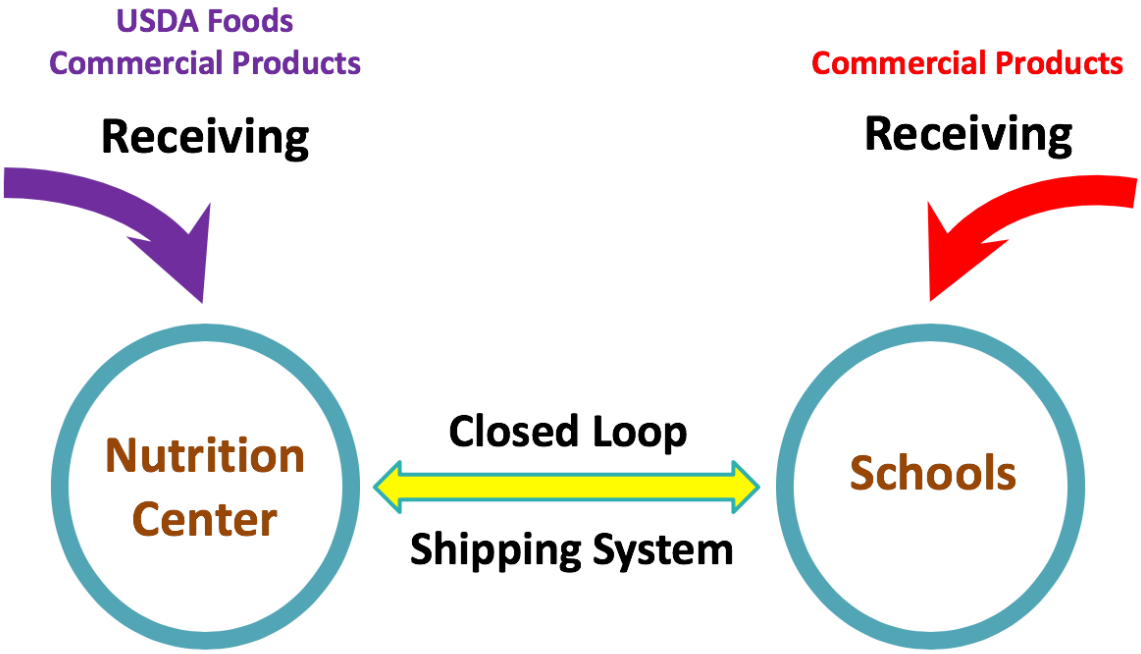


Figure 8.

SPPS Truck Loaded with Cold Carts & Pallets of Food Products For Shipment from the Nutrition Center to Schools

B2Go Meal Service

B2Go meal service starts in school cafeterias and hallways where students are allowed to select breakfast foods, place them in a single-use plastic bag, and carry it to their classrooms where they consume their breakfast (see Figure 9). When students are done eating breakfast, they place their waste in the plastic bag, including leftover milk in cartons, and discard everything in trash bins.

Figure 9. B2Go Plastic Bag

VII. BASELINE FOR B2GO SUPPLY CHAIN DISCARDS

To establish a baseline for B2Go supply chain discards, the Project Team:

- Inventoried the inbound, outbound and downstream waste generated from the B2Go Program during the 12-month period, September 2018 through August 2019.

- Conducted a food and milk waste study during B2Go meal events at two elementary schools.

Inventory of B2Go Supply Chain Discards

To inventory the inbound, outbound and downstream supply chain discards for the B2Go Program, the Project Team:

- Developed a list of all food, ingredients and foodservice supplies purchased.

- Calculated quantities of all food, ingredients and foodservice supplies purchased.

- Calculated costs to purchase all food, ingredients and foodservice supplies.

- Identified each point in the inbound, outbound and downstream supply chain where waste is generated for food, ingredients and foodservice supplies; and documented the waste with a photograph and its weight.

- Catalogued weight, quantities and cost for each inbound, outbound and downstream waste item discarded in an inventory database.

The 12-month inventory of B2Go supply chain discards is provided in Appendix A. Photographs of discarded items are summarized in Appendix B.

Summary of Items Inventoried

Between September 2018 and August 2019, SPPS NS designed B2Go menus using 33 menu items, 28 ingredients for Smart Rounds and Sunrise Sandwiches, and six foodservice supplies (plastic forks and spoons; napkins; white rice bowls and lids; and B2Go plastic bags). Tables 3 and 4 summarize the B2Go supply chain items and their discards documented and inventoried in Appendix A. A total of 67 menu items, ingredients and foodservice supplies generated 210 unique discards that were photographed, weighed and cataloged by quantity, weight and purchase cost. For this 12-month period, the B2Go Program:

- Spent $3,347,089 on menu items, ingredients and foodservice supplies.

- Generated a total of 334 tons of discards comprised of food packaging (295 tons) and foodservice supplies/packaging (39 tons) throughout the supply chain.

Each B2Go menu item, ingredient and foodservice supply generates: (1) a range of one to seven discards; and (2) an average of three discards.

Table 3.
Summary of B2Go Supply Chain Menu Items, Ingredients & Foodservice Supplies

B2Go Menu Items	B2Go Ingredients (Sunrise Sandwiches, Smart Round)	B2Go Foodservice Supplies (Plastic forks, spoons, napkins, white rice bowls & lids, B2Go plastic bag)	Total # of Items
33	28	6	67

Table 4.
Summary of Discards for B2Go Supply Chain Menu Items, Ingredients & Foodservice Supplies

# of Unique Discards for Each B2Go Menu Item	Main Categories of Discards
210 • Weighed & photographed • Cataloged by quantity, weight & purchase cost	• Wood skids, cardboard boxes, shrink wrap, plastic banding, corner braces • Paper liners, trays, bags & napkins • Plastic bags, food wrappers, jugs, pails, cups, bowls, forks & spoons • Foil & plastic covers • Milk cartons, reusable crates, Tetra Pak cartons, plastic straws • Compostable rice bowls & lids

For the 334 tons of food packaging and foodservice supplies/packaging discarded throughout the B2Go supply chain, Appendix C highlights the types of waste materials generated. Table 5 summarizes the packaging and supplies data provided in Appendix C.

Table 5.
Summary of B2Go Packaging & Foodservice Supplies Discards in Appendix C

Material Type	Weight (Tons)
Cardboard Boxes	72
Milk Cartons	54

Table 5 Continued.
Summary of B2Go Packaging & Foodservice Supplies Discards in Appendix C

Material Type	Weight (Tons)
Recyclable Plastics[1] Cereal Bowls & Yogurt Cups (#1, #2, #5)	14
Non-Recyclable Plastics[1] Juice & Fruit Cups (no recycling #)	33
B2Go Plastic Bags	25
Plastic Silverware	3
Compostable Foodservice Supplies (white rice bowls & lids, napkins)	8

[1]The Project Team met with Eureka Recycling, the materials recovery facility that processes SPPS recyclables, and developed a list of "Breakfast to Go Recycling Do's & Don'ts" which is provided in Appendix D.

Food & Milk Waste Study

For a five-day period, the Project Team weighed the food and milk waste discarded by students during B2Go meal events at J.J. Hill Montessori and Eastern Heights Elementary School. The data collected is provided in Appendix E, and a summary of the data is provided in Table 6.

Table 6. Food & Milk Waste Study Data

Food Waste Collected During Study	Milk Waste Collected During Study	# B2Go Meals Served During Study	Total # B2Go Meals Served 2018-19 School Year
149 lbs.	165 lbs.	1,772	3,372,422

<u>Food Waste</u>

a. Estimated food waste generated per meal: 149/1,772 = 0.084 lbs.
b. Estimated food waste generated per year: 0.084 x 3,372,422 = 283,283 lbs. (142 tons)

<u>Milk Waste (Pounds)</u>

a. Estimated milk waste generated per meal: 165/1,722 = 0.093 lbs.
b. Estimated milk waste generated per year: 0.093 x 3,372,422 = 313,635 lbs. (157 tons)

Milk Waste (Gallons)

1 Gallon Milk Weighs	Milk Waste Collected During Study (Gallons)	Milk Waste Per Meal (Gallons)	Estimated Milk Waste Per Year (Gallons)
8.6 lbs.	165/8.6 = 19.2	19.2/1,772 = 0.012	3,372,422 x 0.012 = 40,470 gallons

Baseline for B2Go Supply Chain Discards

The annual baseline estimate for B2Go supply chain discards is summarized below.

B2Go Supply Chain Discards	Annual Weight (Tons)
Food Packaging	295
Foodservice Supplies & Packaging	39
Food Waste	142
Milk Waste	157
TOTAL	**633** **(1,266,000 lbs.)**

Estimated Discards Per B2Go Meal: 1,266,000/3,372,422 = 0.4 lbs. per meal

VIII. ENVIRONMENTALLY PREFERABLE PURCHASING PLAN

With an established annual baseline of 633 tons of B2Go supply chain discards, the Project Team applied the principles of zero waste strategies and tactics to develop a three-year Environmentally Preferable Purchasing Plan to redesign, reduce and reuse inbound and outbound food packaging and foodservice supplies/packaging.

The Environmentally Preferable Purchasing Plan is comprised of two parts:

1. Environmentally Preferable Purchasing Guidelines (EPP Guidelines)

2. Environmentally Preferable Purchasing Goals for 2019 – 2022 (EPP Goals)

The annual baseline estimate of B2Go supply chain discards is the foundation for developing the Environmentally Preferable Purchasing Plan.

EPP Guidelines

SPPS NS adheres to the following guidelines for purchasing:

- Durable and reusable products that reduce waste.

- Recycled content plastic items (examples include trash and recycling containers, decking, parking lot barriers and furniture).

- Recycled content metal items (examples include signage, office furniture and trash and recycling containers).

- Recycled content office and facilities furniture and furnishings.

- Office paper (copy paper, printer paper, writing pads, stationery, envelopes and business cards containing at least 30 percent post-consumer recycled content.
- Other paper (paper towels, toilet paper, napkins and similar items) containing 100 percent post-consumer recycled content.

SPPS NS will require, whenever possible:

- A take-back program be offered for packaging of products and will give preference to take-back programs that are provided free of charge. SPPS NS will also give preference to packaging that is reusable and contains a minimum of hazardous and non-recyclable materials.

- Packing materials must abide by at least one of the criteria listed below:

a. Made from 100 percent post-consumer recycled materials and be recyclable, reusable or compostable.
b. Be non-toxic.
c. Be biodegradable.
d. Be BPI Certified compostable.
e. Be produced with the minimum of resources and sized as small as practicable, while still maintaining product protection during shipping. Unnecessary packaging materials should be eliminated.

To implement EPP Guidelines, SPPS NS will accomplish the following tasks:

- Review and analyze the current annual baseline of B2Go supply chain discards.

- Update multi-year goals and implementation schedule based on priorities, difficulty and upcoming Requests for Proposals at least twice a year.

- Report achievements under EPP Guidelines to the Board of Education and public annually.

- Evaluate product specifications and purchasing documents to add EPP language, such as recyclable packaging, exclude non-recyclable packaging, reuse or recycled content products.

- All Requests for Proposals must require vendors to use recycled products whenever practicable.

- 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.

- SPPS 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.

- SPPS NS will develop and maintain information about environmentally preferable products and recycled content packaging and products containing the maximum practicable amount of recycled materials to be purchased.

- SPPS NS will develop and implement a monitoring and tracking system as a tool to confirm compliance with these guidelines.

EPP Goals

The Project Team identified seven goals to redesign, reduce and reuse food packaging and foodservice supplies/packaging between school years 2019 and 2022. For each year, the goals are summarized in Appendix F and are comprised of:

- Four inbound strategies that target 60.4 tons of food packaging a year.
- One inbound strategy that targets 27.1 tons of foodservice supplies/packaging a year.
- Two outbound strategies that target 3.9 tons of food packaging a year.

A description of each goal and methodologies that establish a framework to measure the financial gains or benefits versus costs of implementing the goals follows.

REDESIGN, REDUCE & REUSE PACKAGING & FOODSERVICE SUPPLIES

INBOUND STRATEGIES

GOAL #1 – Switch Single Serve Apple & Orange Juice Cups from Non-Recyclable Plastic to Recyclable Plastic #5

1. Stop purchasing apple and orange juice in non-recyclable, single serve plastic cups.
2. Eliminates 29.7 tons of non-recyclable plastic from B2Go downstream materials a year.

Future

Estimated annual hauler cost savings:

Hauler Cost to Trash 29.7 tons plastic juice cups (Feb. 2019 Rates)	Hauler Cost to Recycle 29.7 tons plastic juice cups (Feb. 2019 Rates)	Estimated Hauler Cost Savings Per Year
$18,707	$5,731	$12,976

Next Steps

Work with commercial vendor to specify the purchase of single serve apple and orange juice packaged in recyclable plastic #5 cups.

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

1. Stop using USDA entitlement to purchase peach, mixed berry and strawberry fruit in non-recyclable, single serve plastic cups.

3. Eliminates 3.2 tons of non-recyclable plastic from B2Go downstream materials a year.

Future

Estimated annual hauler cost savings:

Hauler Cost to Trash 3.2 tons plastic fruit cups (Feb. 2019 Rates)	Hauler Cost to Recycle 3.2 tons plastic fruit cups (Feb. 2019 Rates)	Estimated Hauler Cost Savings Per Year
$2,032	$608	$1,424

Next Steps

Implement a procurement strategy to reallocate the use of entitlement for USDA Foods from brown box USDA Foods to Net Off Invoice to purchase fruit in single serve fruit cups. Net Off Invoice allows SPPS NS to specify who the vendor is and the preference for recyclable (Plastic #5) single serve fruit cups.

GOAL #3 – Switch from Wood to Plastic Pallets for Closed Loop Shipping System from Nutrition Center to Schools

1. Explore making the switch from custom wood pallets to plastic pallets for SPPS closed loop shipping system between the Nutrition Center and schools.

2. Targets the reduction of 2.8 tons of wood waste a year.

Current

- Use 130 wood pallets for closed loop shipping system
- Each pallet weighs 25.6 pounds
- Purchase 216 new wood pallets a year @ $8.60 each = $1,858

Future

- Need 80 plastic pallets to replace 130 wood pallets
- Plastic pallets last at least 10 years, possibly more
- Cost: 80 x $24 each = $1,920

- Estimated ROI: $1,920/$1,858 = 1 year
- Estimated waste diversion: 216 pallets x 25.6 lbs. each = 5,530 lbs. = 2.76 tons per year
- Estimated waste diversion over 10 years: 5,530 lbs. x 10 years = 55,300 lbs. = 28 tons

Next Steps
- Pilot plastic pallets on Routes 2 and 5.
- Monitor pallet performance and operational impacts.

GOAL #4 – Switch from One-Time-Use Cardboard Boxes to Reusable Plastic Crates for Apple & Orange Juice Shipped Directly to Schools

1. Explore making the switch from one-time-use cardboard boxes to reusable plastic crates to ship single serve apple & orange juice directly to schools.

2. Targets the reduction of 24.7 tons of cardboard a year.

Current
- Schools receive apple and orange juice in cardboard boxes directly from vendor.
- SPPS NS and custodial staff flatten boxes and place them in recycling dumpsters.

- From Sept 2018 through August 2019, schools generated:

Apple Juice	Orange Juice	Total
26,727 Cases Each case weighs 1 pound	22,722 Cases Each case weighs 1 pound	49,449 Cases
Cardboard Boxes 26,727 lbs. or 13.36 tons	Cardboard Boxes 22,722 lbs. or 11.36 tons	Cardboard Boxes 49,449 lbs. or 24.7 tons

- Annual costs to purchase juice & quantity of cardboard boxes received:

Apple Juice	Orange Juice	Total
$347,986 ($13.02 per case)	$339,012 ($14.92 per case)	$686,998
Cardboard Boxes 26,727 lbs. or 13.36 tons	Cardboard Boxes 22,722 lbs. or 11.36 tons	Cardboard Boxes 49,449 lbs. or 24.7 tons

- Annual costs to recycle 24.7 tons of discarded cardboard boxes:

Staff Time to Flatten & Transfer Cardboard Boxes to Recycling Dumpsters[1] (49,449 Boxes or 24.7 Tons)		**Total Annual Labor Cost**	**Hauler Cost to Recycle 24.7 Tons of Cardboard (Feb. 2019 Rates)**	**TOTAL ANNUAL COSTS**
Nutrition Services ($21.75 per hour)	Facilities Department ($33.09 per hour)	824 Staff Hours $21,041	$2,726	$23,767
$11,941 (549 hours per year) [2]	$9,100 (275 hours per year) [2]			

[1] It is estimated that it takes a total of 1 staff minute per cardboard box (0.5 minutes to flatten a cardboard box and 0.5 minutes to transfer a flattened cardboard box to a recycling dumpster).

[2] Of the 49,449 minutes of staff time required to flatten and transfer cardboard boxes to recycling dumpsters per year, it is estimated that SPPS NS staff spend 32,966 minutes (2/3) and Facilities Department staff spend 16,483 minutes (1/3) on this activity.

Total annual baseline cost to purchase single serve apple and orange juice and manage one-time-use cardboard boxes:

Purchase Apple & Orange Juice	$686,998
Staff Time to Recycle Cardboard Boxes	$21,041
Hauler Cost to Recycle Cardboard Boxes	$2,726
TOTAL	**$710,765**

Future

- Switch to reusable plastic crates to eliminate one-time-use cardboard boxes.

Next Steps

- Research vendor options to make the switch to reusable plastic crates.
- Pilot receiving apples & organic juice in reusable plastic crates at select school(s).
- Monitor reusable plastic crate performance, operational impacts.
- Document change in costs to purchase juice shipped in reusable plastic crates.
- Document the amount of staff time required to manage reusable plastic crates.
- Use the annual baseline cost ($710,765) to conduct a cost-benefit analysis for making the switch to reusable plastic crates for all schools.

GOAL #5– Switch from One-Time-Use Plastic Breakfast Bags to Reusable Bags

1. Explore making the switch from one-time-use plastic breakfast bags to a reusable option.

2. Targets the reduction of 25.3 tons of plastic and 1.8 tons of cardboard boxes a year.

Current

- Schools serve B2Go in one-time-use plastic breakfast bags.
- Plastic breakfast bags are delivered to schools in cardboard boxes.
- Plastic breakfast bags are not accepted in the District's single stream recycling program and discarded in the trash.
- Cardboard boxes are flattened and placed in recycling dumpsters.

- From Sept 2018 through August 2019, schools used:

Plastic Breakfast to Go Bags	Cardboard Boxes	Cost to Purchase
4,208,000 (Weighs 0.012 lbs. each)	8,416 (500 bags per case)	$123,547 ($14.68 per case)
50,496 lbs. or 25.3 tons	3,700 or 1.8 tons (Weighs 0.44 lbs. per box)	—

- Annual costs to recycle 1.8 tons of discarded cardboard boxes and trash 25.3 tons of plastic breakfast bags:

Staff Time to Flatten & Transfer Cardboard Boxes to Recycling Dumpsters[1] (8,416 Boxes or 1.8 Tons)		Total Annual Labor Cost	Hauler Cost to Recycle 1.8 Tons of Cardboard (Feb. 2019 Rates)	Hauler Cost to Trash 25.3 tons of plastic bags (Feb. 2019 Rates)	TOTAL ANNUAL COSTS
Nutrition Services ($21.75 per hour)	Facilities Department ($33.09 per hour)	141 Staff Hours	$204	$11,720	$15,524
$2,045 (94 hours per year) [2]	$1,555 (47 hours per year) [2]	$3,600			

[1] It is estimated that it takes a total of 1 staff minute per cardboard box (0.5 minutes to flatten a cardboard box and 0.5 minutes to transfer a flattened cardboard box to a recycling dumpster).

[2] Of the 8,416 minutes of staff time required to flatten and transfer cardboard boxes to recycling dumpsters per year, it is estimated that SPPS NS staff spend 5,611 minutes (2/3) and Facilities Department staff spend 2,805 minutes (1/3) on this activity.

- Total annual baseline cost to purchase and trash plastic breakfast bags and recycle discarded cardboard boxes at schools:

Purchase Plastic Breakfast Bags	$123,547
Staff Time to Flatten & Transfer Cardboard Boxes to Recycling Dumpsters at Schools	$3,600
Hauler Cost to Recycle Cardboard Boxes	$204
Hauler Cost to Trash Plastic Breakfast Bags	$11,720
TOTAL	**$139,071**

Future

- Switch to reusable Breakfast to Go bags.
- Continue to explore a partnership with an identified reusable bag vendor that is willing to launder reusable bags at no cost to the District.

Next Steps

- Establish a committee to design a reusable breakfast bag program for select schools.
- Develop standard operating procedures and educational materials for reusable bag program.
- Pilot reusable breakfast bag program at select schools and measure outcomes.
- Monitor reusable bag performance and operational impacts.
- Pilot reusable breakfast bags at select schools.
- Monitor bag performance and operational impact/costs.
- Cost to purchase & clean reusable breakfast bags: $0.
- Use the annual baseline cost ($139,071) to conduct a cost-benefit analysis to launch reusable breakfast bag programs for all schools.

OUTBOUND STRATEGIES

GOAL #6 – Decrease the Size of the Plastic Food Wrapper Smart Rounds are Packaged in at the Nutrition Center

1. Wrap 280,400 Smart Rounds in plastic food wrappers a year.

2. Decrease the width of the plastic food wrapper from 7 inches to 6 inches.

3. Targets the reduction of 400 pounds (0.20 tons) of plastic food wrappers a year.

Future

Estimated annual cost savings:

Hauler Cost to Trash 0.20 tons (Feb. 2019 Rates)	Cost to Purchase Plastic Food Wrapper (Costs $51.91 per Plastic Roll)	Total Annual Savings
$130	7-inch wrapper = 33 plastic rolls a year ($1,713) 6-inch wrapper = 28 plastic rolls a year ($1,453) Savings = $260	$390

Next Steps

Recalibrate equipment to package Smart Rounds in 6-inch wide plastic food wrappers at the Nutrition Center.

GOAL #7 – Switch from One-Time-Use Cardboard Boxes to Reusable "Baskets & Wheels" Closed Loop Shipping System from Nutrition Center to Schools

1. Explore making the switch from assembling one-time-use cardboard boxes at the Nutrition Center (Figures 1, 2 and 3) to a reusable metal "baskets & wheels" closed loop shipping system for transporting Smart Rounds and Sunrise Sandwiches from the Nutrition Center to schools.

2. Targets the reduction of 3.7 tons of cardboard boxes a year.

Current

- Nutrition Center staff assemble 7,998 cardboard boxes a year to transport Smart Rounds and Sunrise Sandwiches from the Nutrition Center to schools
- At schools, SPPS NS and Facilities Department staff flatten boxes and place them in recycling dumpsters

- From Sept 2018 through August 2019, schools received:

Smart Rounds	Sunrise Sandwiches	Total
2,804 Cases Each case weighs 0.8 pounds	5,194 Cases Each case weighs 1 pound	7,998 Cases
Cardboard Boxes 2,243 lbs. or 1.12 tons	Cardboard Boxes 5,194 lbs. or 2.6 tons	Cardboard Boxes 6,643 lbs. or 3.7 tons

- Annual costs to assemble cardboard boxes at Nutrition Center:

Supply Costs[1]	**Labor Cost[2] ($21.75 per hour)**	**Total**
$5,359 ($0.67 x 7,998)	$805 (7,998/216 = 37 staff hours)	$6,164

[1] Supply cost per box ($0.67) includes cardboard box ($0.63), tape ($0.02) and label & ink ($0.02).

[2] One Nutrition Center staff assembles 3.6 boxes per minute or 216 boxes per hour.

- Annual costs to recycle 3.7 tons of discarded cardboard boxes

Staff Time to Flatten & Transfer Cardboard Boxes to Recycling Dumpsters[1] (7,998 Boxes or 3.7 Tons)		**Total Annual Labor Cost**	**Hauler Cost to Recycle 3.7 Tons of Cardboard (Feb. 2019 Rates)**	**TOTAL ANNUAL COSTS**
Nutrition Services ($21.75 per hour)	Facilities Department ($33.09 per hour)	133 Staff Hours	$410	$3,802
$1,936 (89 hours per year)[2]	$1,456 (44 hours per year)[2]	$3,392		

[1] It is estimated that it takes a total of 1 staff minute per cardboard box (0.5 minutes to flatten a cardboard box and 0.5 minutes to transfer a flattened cardboard box to a recycling dumpster).
[2] Of the 7,998 minutes of staff time required to flatten and transfer cardboard boxes to recycling dumpsters per year, it is estimated that SPPS NS staff spend 5,332 minutes (2/3) and Facilities Department staff spend 2,666 minutes (1/3) on this activity.

- Total annual baseline cost to assemble one-time-use cardboard boxes at the Nutrition Center and recycle them at schools:

Nutrition Center Supply Costs	$5,359
Nutrition Center Labor Costs	$805
Staff Time to Flatten & Transfer Boxes to Recycling Dumpsters at Schools	$3,392
Hauler Cost to Recycle Boxes	$410
TOTAL	**$9,966**

<u>Future</u>

- Purchase 1,000 “Baskets” for the “Baskets & Wheels” closed loop shipping system
- “Baskets & Wheels” system is anticipated to last at least 10 years
- Cost: 1,000 x $25.75 each = $25,750

- Estimated ROI: $25,750/$9,966 = 2.6 years
- Estimated waste diversion per year: 3.7 tons cardboard
- Estimated waste diversion over 10 years: 3.7 x 10 = 37.2 tons

Next Steps

- Purchase enough "Baskets" to pilot a closed loop shipping system on two (2) Routes.
- Monitor "Baskets & Wheels" performance and operational impacts.
- Document the amount of staff time required to manage "Baskets & Wheels" closed loop shipping system.
- Use the annual baseline cost ($9,966) to conduct a cost-benefit analysis to make the switch for all Routes.

IX. REUSE, RECYCLE & COMPOST COLLECTION SYSTEMS

The Project Team used the estimated baseline of B2Go supply chain discards (633 tons per year) and the principles of zero waste strategies and tactics to develop reuse, recycling and compost collection system goals for:

- The Nutrition Center
- Schools

SPPS NS has identified three goals for the Nutrition Center and schools between school years 2019 and 2022. For each year, the goals are summarized in Appendix F and are comprised of:

- Food rescue program
- Best management practices recycle and compost collection systems

REUSE

GOAL #1 – Redesign Existing Food Rescue Program

1. Research new partnerships with food rescue service providers.
2. Design a new food rescue program to collect and donate excess, wholesome food after meal events.

Current

- Nutrition Center and school kitchen staff collect excess, wholesome food.
- Staff package and label excess food for donation.
- Excess food is shipped by SPPS NS from schools to Nutrition Center.
- Excess food from Nutrition Center and schools is stored in freezer at Nutrition Center.
- Nutrition Center staff contact food rescue service provider and requests pick-ups.
- If excess food is not accepted by food rescue service provider, excess food is discarded.
- Weight data on excess food picked up for donation is not provided.

Future

- Establish a relationship with new food rescue service provider(s).
- Design and pilot a new food rescue program at the Nutrition Center and select school(s).
- Monitor performance and operational impacts.
- Measure pounds and tons of donated excess food.
- Launch a new food rescue program at all schools.

RECYCLE & COMPOST

GOAL #2 – Launch a Best Management Practices Trash, Recycling & Organics Collection System at the Nutrition Center

1. Upgrade the current trash/recycling/organics collection system in the Nutrition Center to best management practices.

2. Targets the separation, collection and consolidation of recyclable materials and organic waste from the Nutrition Center's waste stream.

Future

Best management practices include, but are not limited to:

1. Collection Container Infrastructure
   - Standardized, color-coded trash (grey), recycling (blue) and organics (green) containers throughout the facility.
   - Always group trash, recycling and organics containers together (in pairs or triples as needed) with lids, as appropriate.
   - Container groups placed in strategic and convenient locations for staff participation.
   - Standardized trash/recycling/organics labels and signage affixed to all containers.

2. Education Program
   - Develop educational tools (e.g., labels, posters, handouts, etc.) using the document, Breakfast to Go Recycling Do's & Don'ts, as a guide (March 20, 2019) provided in Appendix D.
   - Conduct recurring employee trash/recycling/organics education for existing staff, especially when new products and packaging are added to the supply chain.
   - Include trash/recycling/organics education for new hires during onboarding process.

3. Daily Operations
   - Develop a Best Management Practices Standard Operating Procedure for the Nutrition Center Trash/Recycling/Organics Collection System.
   - Include employee roles and responsibilities.
   - Ensure trash, recycling and organics hauler services are continually right sized, especially as waste is reduced and diverted from the waste stream.

Next Steps

- Conduct a walk-through of the Nutrition Center to develop a best management practices collection container plan.

- Develop a plan to upgrade the collection system to best management practices.

GOAL #3 – Launch a Best Management Practices Trash, Recycling & Organics Collection System for Student Participation in Schools

1. Custom design B2Go trash, recycling and organics collection system for student participation at each school.

2. Targets for recycling 97.2 tons of materials a year, comprised of:

   - 53.7 tons of milk cartons
   - 10.6 tons of plastic cereal bowls
   - 29.7 tons of single serve plastic juice cups a year (Inbound Food Packaging Goal #1)
   - 3.2 tons of single serve, plastic fruit cups (Inbound Food Packaging Goal #2)

3. Targets for composting 150.3 tons of materials a year, comprised of:

   - 142 tons of food waste (no milk)
   - 8.3 tons of bowls, lids & napkins

Future

Estimated annual hauler cost savings:

Hauler Cost to Trash 97.2 + 126 + 8.3 tons (Feb. 2019 Rates)	**Hauler Cost to Recycle 97.2 tons (Feb. 2019 Rates)**	**Hauler Cost to Compost[1] 126 + 8.3 tons**	**Estimated Hauler Cost Savings Per Year**
$37,082	$10,714	$0	$26,368

[1]Current compost collection dumpsters at schools are not filled to their capacity. Adding 134.3 tons of food waste, bowls, lids and napkins to compost collection dumpsters will not increase the hauler cost to compost. Does not include the cost to purchase additional compostable bags.

Next Steps

Collaborate with the Facilities Department and school partners to custom design for each school a best management practices B2Go trash, recycling and organics collection system.

X. NEXT STEPS

As summarized in Table 7, the zero waste strategies and tactics outlined in this report will target about 307 tons or 49% of the estimated 633 tons of B2Go waste generated a year. Instrumental to the success of implementing these strategies will be completing the established framework to measure the financial gains or benefits versus costs.

Table 7. Summary of Phase 1 B2Go Zero Waste Strategies & Tactics

Type	Annual Tons Targeted	Strategy
Inbound Food Packaging	28	Reduction
Outbound Food Packaging	4	Reduction
Inbound Foodservice Supplies & Packaging	27	Reduction
Downstream Nutrition Center	TBD	Reuse, Recycle, Compost
Downstream Schools	248	Reuse, Recycle, Compost
TOTAL	**307**	

Barriers to Overcome

The first phase of this project has the potential to dramatically transform the B2Go Program, Nutrition Center operations, and school recycling and compost collection systems. Along with this transformation, there will be barriers to overcome:

- Zero waste strategies and tactics will change staff roles and responsibilities across administration, operations, and academics. There may be resistance to change that is necessary to accomplish desired outcomes.

- The current procurement system in which SPPS NS operates presents fundamental barriers to designing and implementing purchasing plans that embrace zero waste strategies and tactics.

- SPPS NS can specify preferences for reusable and recyclable packaging for commercial products and supplies, but vendors determine what specifications they are willing to meet.

- SPPS NS cannot specify packaging preferences for USDA Foods, which are often packaged in one-time-use and non-recyclable packaging.

Next Steps

To overcome these barriers, next steps include:

- Establish new roles and responsibilities for SPPS administration, operations and academic staff.

- Work with commercial vendors and suppliers to comply with zero waste food packaging goals.

- Work with USDA and other governing bodies to specify zero waste food packaging goals.

- Partner with other school districts to increase demand for changes to the procurement system.

In addition, The Project Team will continue to develop, for each zero waste strategy and tactic, approaches and methodologies to measure the financial gains or benefits versus the costs of implementation, which will allow the self-supporting program to generate resources for future phases.

These steps are the foundation for SPPS NS to operate its federally funded child nutrition programs in a manner that embraces Zero^2 – zero hunger and zero waste solutions.

XI. APPENDICES

The following appendices are separate documents that accompany the report.

Appendix A. Inventory of B2Go Supply Chain Discards

Appendix B. B2Go Documentation Photos

Appendix C. Highlights of B2Go Discards

Appendix D. B2Go Recycling Do's & Don'ts

Appendix E. B2Go Food & Milk Waste Study

Appendix F. Summary of Zero Waste Strategies & Tactics for B2Go Program