ZERO WASTE STRATEGIES AND TACTICS FOR BREAKFAST TO GO PROGRAM
Saint Paul Public Schools

- Serves 37,000 scholars (PreK – 12)
- Operates 56 schools & programs in 73 buildings
- Manages 7.5 million square feet of facilities
- Occupies 500 acres of land
SPPS Nutrition Services

- Serves over 8.4 million meals a year

- Focus is on
  - Scratch cooking
  - Local agriculture
  - Culturally relevant menus

- 3 out of 5 scholars are food insecure
Budget

Revenue
• Student Payments
• Reimbursements
$27.83 Million

Budget
$29.2 Million

USDA Entitlement
$1.37 Million
Two Ways to Buy

Revenue
- Student Payments
- Reimbursements
$27.83 Million

USDA Entitlement
$1.37 Million

Budget
$29.2 Million

Commercial Products & Supplies

USDA Foods
Self-Supporting

Revenue
• Student Payments
• Reimbursements
$27.83 Million

Budget
$29.2 Million

USDA Entitlement
$1.37 Million

Commercial Products & Supplies

USDA Foods

Student Meals
Nutrition Center
Cooks Entrees, Soups, Gravies & Sauces from Scratch
Nutrition Center

Bakes Pizza Crusts, French Bread, Focaccia Bread & Muffins
Nutrition Center
Prepares Menu Items for Breakfast to Go (B2Go)
SPPS Serves 20,000 B2Go Meals a Day
Plastic Breakfast Bag
Students Eat in Classrooms
Waste is Dispersed Throughout Schools
Difficult to Separate, Recycle & Compost
Tipping Point
Project Overview

Step 1
- Document B2Go supply chain logistics

Step 2
- Inventory B2Go supply chain waste

Step 3
- Conduct a food & milk waste study in schools

Step 4
- Baseline annual B2Go waste
Project Overview

**Step 5**

- Apply the principals of Zero Waste strategies & tactics
- Redesign, reduce & reuse food packaging materials
- Reuse, recycle & compost downstream materials
Step 1
Supply Chain Logistics

USDA Foods
Commercial Products

Receiving

Nutrition Center

Closed Loop
Shipping System

Schools

Commercial Products

Receiving
Step 2
Inventory Supply Chain Waste

• Developed a list of food, ingredients & supplies

• Calculated annual quantities purchased & costs

• Identified, weighed & photographed each discarded item

• Developed annual baseline of waste
There are 67 B2Go Items

<table>
<thead>
<tr>
<th>MENU ITEMS</th>
<th>INGREDIENTS (Sandwiches, etc.)</th>
<th>SUPPLIES (Plastic forks, spoons, napkins, etc.)</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>33</td>
<td>28</td>
<td>6</td>
<td>67</td>
</tr>
</tbody>
</table>

EACH ITEM GENERATES

A range of 1 to 7 discards

An average of 3 discards
Apples Received at NC & Shipped to Schools

5 Supply Chain Discards
#1 Apples – Wood Skid (NC Discard)

26.8 lbs.
#3 Apples – Shrink Wrap (NC Discard)
0.47 lbs.
#4 Apples – Cardboard Box (School Discard)
2.4 lbs.
#5 Apples – Fiber Trays/6 Per Box (School Discard)

1.2 lbs.
## Inventoried 210 Supply Chain Discards

### Packaging Materials & Supplies

<table>
<thead>
<tr>
<th>Total # B2Go Discards</th>
<th>Examples</th>
<th>Baseline Tons Per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>210</td>
<td>Wood skids, cardboard boxes, shrink wrap, plastic banding</td>
<td>334</td>
</tr>
<tr>
<td></td>
<td>Paper liners, trays, bags &amp; napkins</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Milk cartons, Tetra Pak cartons, plastic straws</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Plastic bags, food wrappers, jugs, pails, cups, bowls, silverware</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Compostable rice bowls &amp; lids</td>
<td></td>
</tr>
</tbody>
</table>
Step 3
Food & Milk Waste Study

- Weighed food & milk waste at 2 schools
- 1,772 B2Go meals served during study
- 0.08 lbs. food waste per meal
- 0.09 lbs. milk waste per meal
## Step 4
### Baseline Annual B2Go Waste

<table>
<thead>
<tr>
<th>Supply Chain Discards</th>
<th>Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packaging &amp; Supplies</td>
<td>334</td>
</tr>
<tr>
<td>Food Waste</td>
<td>126</td>
</tr>
<tr>
<td>Milk Waste</td>
<td>140</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>600</strong></td>
</tr>
</tbody>
</table>
Step 5
Zero Waste Strategies & Tactics

7 Goals
- Inbound & outbound food packaging materials
  Redesign, reduce & reuse
  3-year Environmentally Preferable Purchasing Plan

3 Goals
- Downstream materials
  Nutrition Center & schools
  Reuse, recycle & compost programs
Goals 1 & 2 Plastic Bowls & Cups

45 Tons Plastics

12 Tons Covers
Goals 1 & 2 Switch to Recyclable Plastic Cups

RECYCLABLE #2 & #5
Cereal, Yogurt & Applesauce
13 tons a year

NON-RECYCLABLE No #s
Juice, Fruit & Cream Cheese
Targets 31.4 tons for Recycling
Goal 3  Switch to Plastic Pallets
Targets Reduction of 2.8 Tons Wood a Year
Goal 4  **Switch to Reusable Plastic Crates**

Targets Reduction of 24.7 tons Cardboard a Year

Reduces 824 Staff Hours a Year ($21,000)

Apple & Orange Juice Shipped to Schools
Goal 5  Switch to Reusable Breakfast Bags
Reduces 25 tons Plastic & 2 tons Cardboard a Year

Each Bag Can Be Reused Up to 500 Times
Goal 6 Decrease Width of Plastic Food Wrapper
Reduces 0.2 tons Plastic a Year

Smart Round Made at Nutrition Center
Goal 7  **Switch to Reusable “Baskets & Wheels”**

Reduces 3.7 tons Cardboard a Year

Reduces 153 Staff Hours a Year ($3,780)

Closed Loop Shipping from Nutrition Center to Schools
Goals 8-10 Reuse, Recycle & Compost
Targets 97 tons Recycling & 134 tons Compost

- Redesign existing food rescue program
- Launch best practices collection system

Trash/recycle/compost

Downstream Materials at Nutrition Center & Schools
### Summary of Zero Waste Goals

<table>
<thead>
<tr>
<th>Type</th>
<th>Annual Tons Targeted</th>
<th>Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inbound Food Packaging</td>
<td>55</td>
<td>Reduction</td>
</tr>
<tr>
<td>Outbound Food Packaging</td>
<td>4</td>
<td>Reduction</td>
</tr>
<tr>
<td>Downstream Nutrition Center</td>
<td>TBD</td>
<td>Reuse, Recycle, Compost</td>
</tr>
<tr>
<td>Downstream Schools</td>
<td>232</td>
<td>Reuse, Recycle, Compost</td>
</tr>
</tbody>
</table>
### Summary of Annual Savings

## Inbound & Outbound Food Packaging Goals

<table>
<thead>
<tr>
<th></th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Staff Time</strong></td>
<td>$28,400</td>
</tr>
<tr>
<td>(1,120 hours or 140 days)</td>
<td></td>
</tr>
<tr>
<td><strong>Hauler Services</strong></td>
<td>$29,500</td>
</tr>
<tr>
<td><strong>Supplies</strong></td>
<td>$5,200</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>$63,100</td>
</tr>
</tbody>
</table>
## Barriers to Overcome

<table>
<thead>
<tr>
<th>USDA Foods</th>
<th>Cannot Specify Packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Products</td>
<td>Vendors Determine What Specifications They Will Meet</td>
</tr>
<tr>
<td>SPPS Operations &amp; Logistics</td>
<td>Change in Staff Roles &amp; Responsibilities</td>
</tr>
</tbody>
</table>
Next Steps

- Establish new roles & responsibilities for SPPS Nutrition Services & Facilities staff
- Work with commercial vendors to comply with zero waste food packaging goals
- Work with USDA to specify zero waste food packaging goals
- Partner with other school districts to increase demand for changes to procurement system
# For More Information

<table>
<thead>
<tr>
<th>Stacy Koppen</th>
<th>Saint Paul Public Schools</th>
<th><a href="mailto:Stacy.koppen@spps.org">Stacy.koppen@spps.org</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Jodi Taitt</td>
<td>EcoConsilium</td>
<td><a href="mailto:jodi@ecoconsilium.com">jodi@ecoconsilium.com</a></td>
</tr>
</tbody>
</table>