

# Designing Healthy Food Service Environments



 #iasboAC24

INVEST IN **YOURSELF** IGNITE **OTHERS**



# Introductions

Stuart Brodsky, Moderator  
- *Principal, Wight & Company*



Scott Reitano, Speaker  
- *Principal, Reitano Design Group*



Becky Brodsky, Speaker  
- *Zero Waste Schools Program Manager, Seven Generations Ahead*



Greg, Christian, Speaker  
- *Principal, Beyond Green Partners*



Colleen Jodlowski, Speaker  
- *CFO, Lincoln Elementary School District 27*



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INVEST IN **YOURSELF** IGNITE **OTHERS**



# Cook Smarter...Not Harder

## Scratch Cooking in Lincoln ESD #27

**Logan County Schools, Illinois**



# Name the food item

## Option A

- Whole wheat flour & Enriched Flour
- Sugar & Inverted sugar
- Eggs
- Water
- Blueberries & Blueberry Juice Concentrate
- Soybean, palm & Canola Oil
- Oat fiber
- Leavening
- Modified Corn Starch
- Potassium Sorbate
- Propylene Glycol Ester of Fatty Acids
- Sodium Alginater
- Natural & Artificial Flavor
- Salt - mono & Diglycerides
- Natural Blueberry Flavor & Blackberry Concentrate
- Soy Lecithin
- Sodium Stearoyl
- Lactylate
- Malic Acid
- Enzymes



## Option B

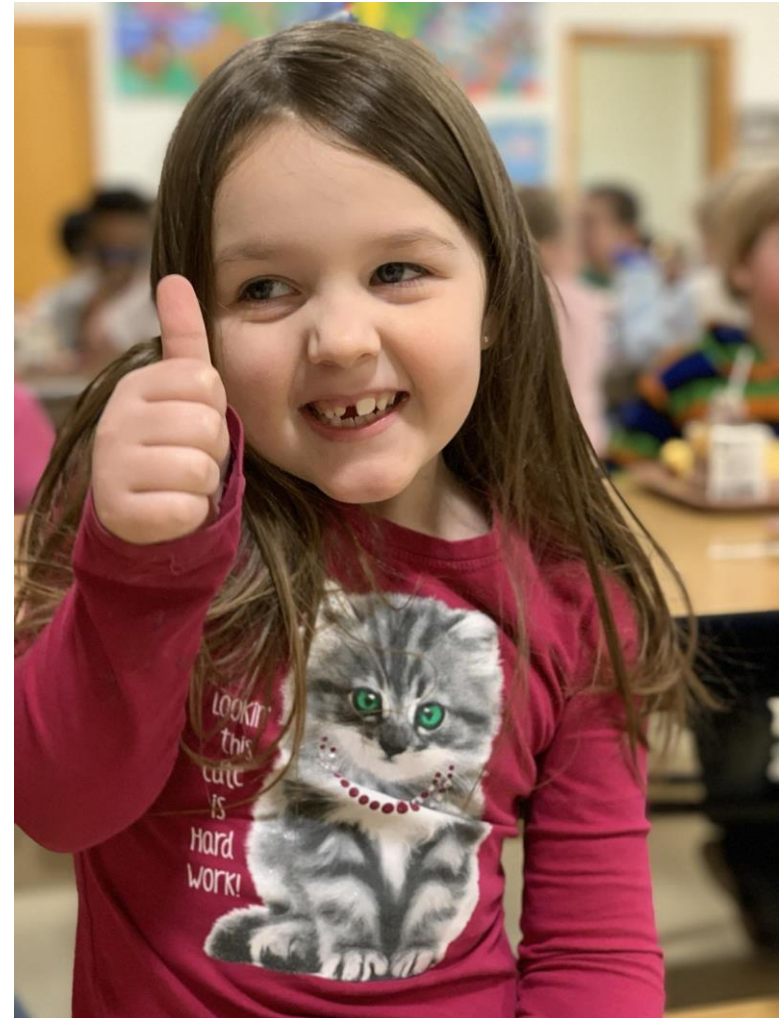
- Organic All Purpose Flour
- Organic Frederick's Whole Grain Flour
- Sugar
- Baking Powder
- Salt
- Egg
- Milk
- Vanilla
- Blueberries
- Applesauce





# Students

*A  
Hungry  
Child  
Can't  
Learn*



# Goal Setting

with scratch cooking



# Recipes

*“Start where you are  
Use what you have  
Do what you can”*



*Looks Good  
Smells Good  
Tastes Good*





# Staff

*“Slow & Steady*



*Wins the Race”*



# Families



*“Together we  
can make a  
positive difference  
in students' lives”*





# Menus

*Success is a Slow Process*

SEPTEMBER 2019		ADAMS LUNCH		
MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
No School <sup>2</sup>	<b>NEW RECIPE</b> <sup>3</sup> <u>Hamburger</u> <u>Potato Wedges</u> <u>Green Beans</u> <u>Watermelon</u>	<sup>4</sup> Max Cheese Sticks w/ marinara Roasted Carrots Fresh Fruit	<sup>5</sup> Sloppy Joe Tater Tots Baked Beans Fresh Fruit	<sup>6</sup> Crispy Chicken Wrap Roasted Potatoes Romaine w/ dressing Fresh Fruit
<sup>9</sup> Sub Sandwich Chips Celery/Carrot sticks Fresh Fruit	<sup>10</sup> Walking Tacos (w/ toppings) Refried Beans Fresh Fruit	<sup>11</sup> Stuffed Aria Pepperoni Pizza Cheese Breadstick Romaine Salad Fresh Fruit	<sup>12</sup> Popcorn Chicken Sweet Potato Fries Green Beans Fresh Fruit	<sup>13</sup> Chicken Nuggets Corn on the Cob Sugar Snap Peas Fresh Fruit
<sup>16</sup> Chicken Quesadilla Salsa/Sour Cream Roasted Broccoli Fresh Fruit	<b>NEW RECIPE</b> <sup>17</sup> <u>Spaghetti &amp; Meat sauce</u> <u>Roasted Zucchini</u> <u>Romaine w/ dressing</u> Plum	<sup>18</sup> Chicken Drumstick Potato Smiles Baked Beans Fresh Fruit	<sup>19</sup> Philly Steak Sub Sweet Peppers Mashed Potatoes Fresh Fruit	<sup>20</sup> BBQ Pork Sandwich Coleslaw Waffle Fries Fresh Fruit

WITH EACH MEAL ITEMS

UNDERLINED ARE MADE  
FROM SCRATCH.

2024 MARCH				
MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
<sup>4</sup>	<sup>5</sup>	<sup>6</sup>	<sup>7</sup>	<sup>1</sup>
<u>Macaroni &amp; Cheese</u> Hotdog Garlic Broccoli	<b>**Beef Taco</b> Salsa/Sour Cream Tortilla Chips <u>Black Beans</u>	<b>**Chicken &amp; Noodles</b> Carrots Peas	<u>Grilled Cheese Soup</u> w/ crackers Fresh Veggies w/ ranch	<b>**Sloppy Joe</b> <u>Potato Wedges</u> <u>Roasted Zucchini</u>
<sup>11</sup>	<sup>12</sup>	<sup>13</sup>	<sup>14</sup>	<sup>8</sup>
<b>**Spaghetti</b> <u>Garlic Bread</u> Green Beans	<b>**Chicken Quesadilla</b> Tortilla Chips Salsa/Sour cream Refried Beans	Stuffed Aria Cheese Pizza Breadstick w/ <u>marinara</u> <u>Salad w/ dressing</u>	<b>**Hamburger</b> Tomato/lettuce/ onion/pickles Cheese slice <u>Potato wedges</u>	<b>**Philly Steak Sub</b> Roasted <u>Peppers/onions</u> <u>Potato Wedges</u>
<sup>18</sup>	<sup>19</sup>	<sup>20</sup>	<sup>21</sup>	<sup>15</sup>
	<b>**Walking Taco</b>			<b>**BBQ Chicken Sandwich</b> Corn on the cob <u>Roasted carrots</u>
				<sup>22</sup>

*Change is hard...but change is good*



# Farmers

*Feeding America... One School at a Time*



# THE BIG PICTURE

*WHAT STUDENT  
WANT TO EAT*

Commodities

Grains

Meat

Fruit

Sodium

Farmers

Calories

DOD

Dairy

Vegetables

Sat. Fat

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	
Central & Adams Lunch	4 Macaroni & Cheese Hotdog Garlic Broccoli	5 **Beef Taco Salsa/Sour Cream Tortilla Chips Black Beans	6 **Chicken & Noodles Carrots Peas	7 Grilled Cheese Soup w/ crackers Fresh Veggies w/ ranch	8 **Philly Steak Sub Roasted Peppers/onions Potato Wedges
milk or milk for lunches - \$.35					
* MILK (1% WHITE) * CHOCOLATE COMES * EACH MEAL ITEMS	11 **Spaghetti Garlic Bread Green Beans	12 **Chicken Quesadilla Tortilla Chips Salsa/Sour cream Refried Beans	13 Stuffed Aria Cheese Pizza Breadstick w/ salsa Salad w/ dressing	14 **Hamburger Tomato/lettuce/ onion/pickles Cheese slice Potato wedges	15 **BBQ Chicken Sandwich Corn on the cob Roasted carrots
ITEMS IN RED ARE MADE FROM SCRATCH.					
* MEALS WITH * ARE MADE WITH LOCAL FOODS	18 **Tater tot casserole Dinner Roll Garlic Broccoli	19 **Walking Taco Salsa/Sour Cream/ Tomatoes/ Lettuce Black Beans	20 **Crispy Chicken Wrap Baked Beans French Fries	21 **pancakes **scrambled Eggs Roasted Vegetables	22 **Ham Party Potatoes **Dinner Roll Roasted Carrots Dessert
	25				

Happy Spring Break





# How to Keep the Business Office Happy



- **Participation, Participation, Participation**
- **Utilize ALL Resources of Funding**
- **Give the People What they Want**



# How to Keep the Business Office Happy



- **Waste Not, Want Not**
- **We Are Family**

## WHY IS THIS IMPORTANT?

Healthy Eating and Nourishment  
Learning and Behavior  
Student Engagement  
Environmental Impacts  
Access and Equity

## INTENTIONAL FOOD SERVICE DESIGN & OPERATIONS

Kitchen Preparation & Distribution Models  
Dining Environments  
Serving and Presentation  
Schedule  
Renovation & New Construction  
Waste Stations  
Gardens & Food Forests

# MENU

## HEALTH STEWARDSHIP & ENVIRONMENTAL BENEFITS

Health  
Carbon Footprint  
Advocacy & Engagement  
Farm to Classroom  
Scratch Cooking  
Local Produce  
Real Food  
Zero Waste  
Reuseables & Plastic Elimination

## DOLLARS & SENSE

Policies  
Cost  
Grants  
Partnerships

**Poor nutrition, obesity, & hunger**

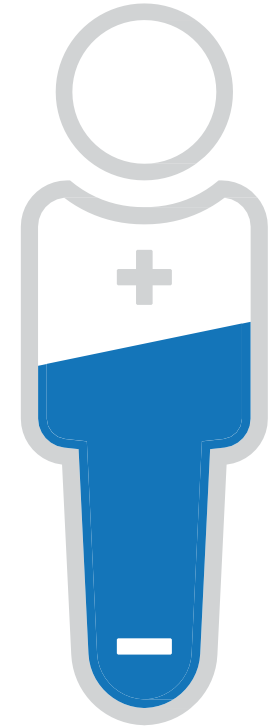
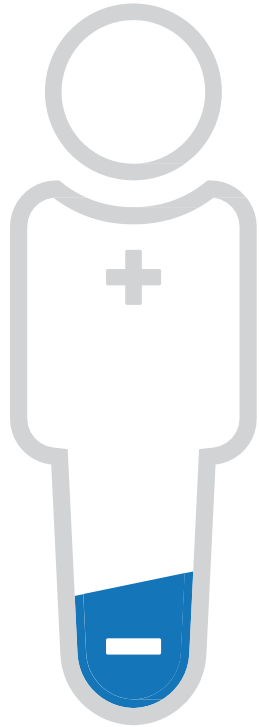
**Over one-third of U.S. children are overweight or obese**

**Nutritional deficiencies negatively affect cognitive development**

**High trans/saturated fats negatively impact learning & memory**

**Access to proper nutrition improves student's cognition, concentration, and energy.**

*source: Wilder Research, 2014*





Healthy Eating and Nourishment

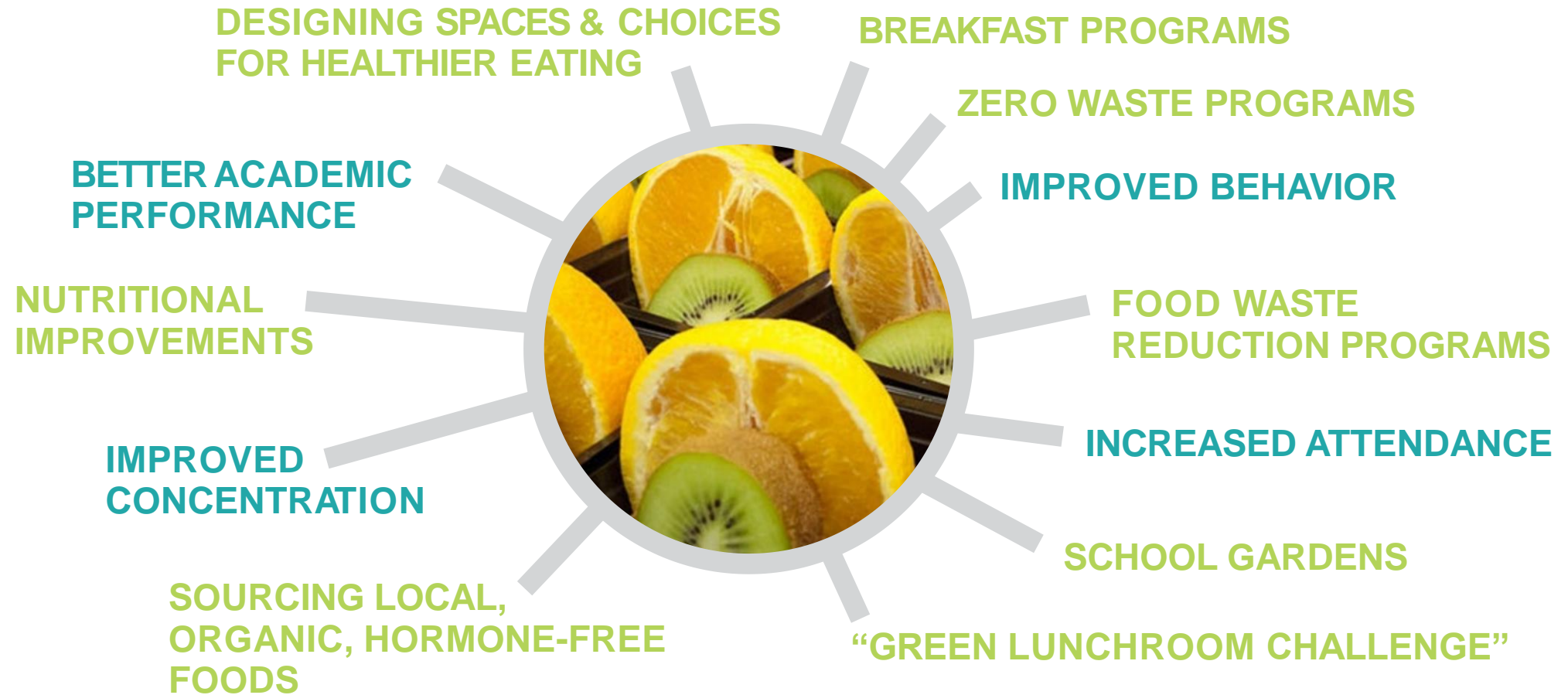






# Nutrition Impact on Academic Performance

Improve nutrition, reduce obesity, & improve access to lunch and breakfast programs.





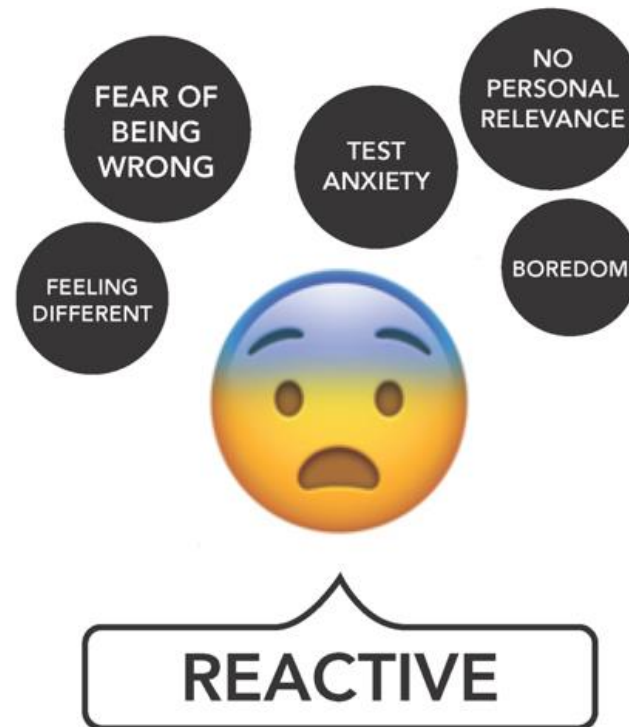
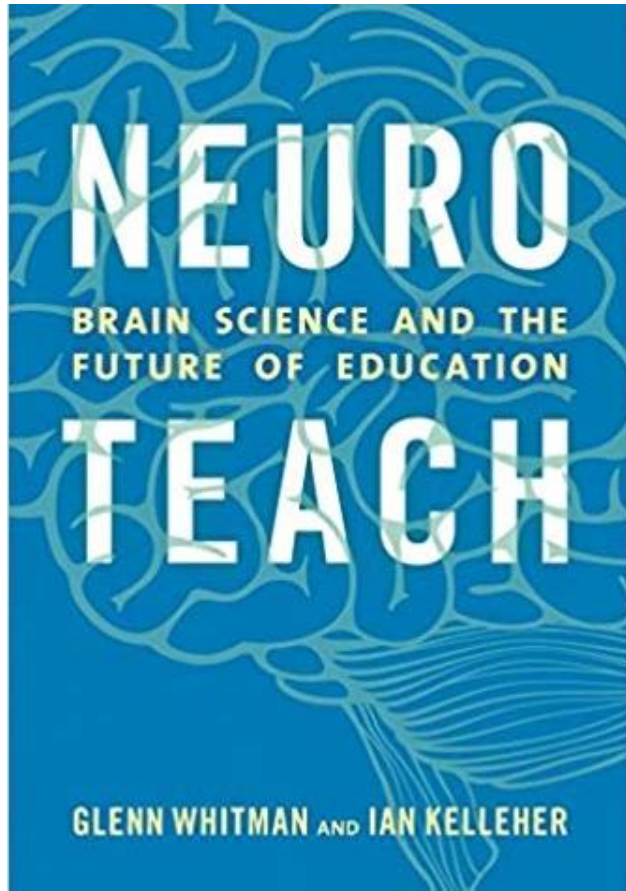




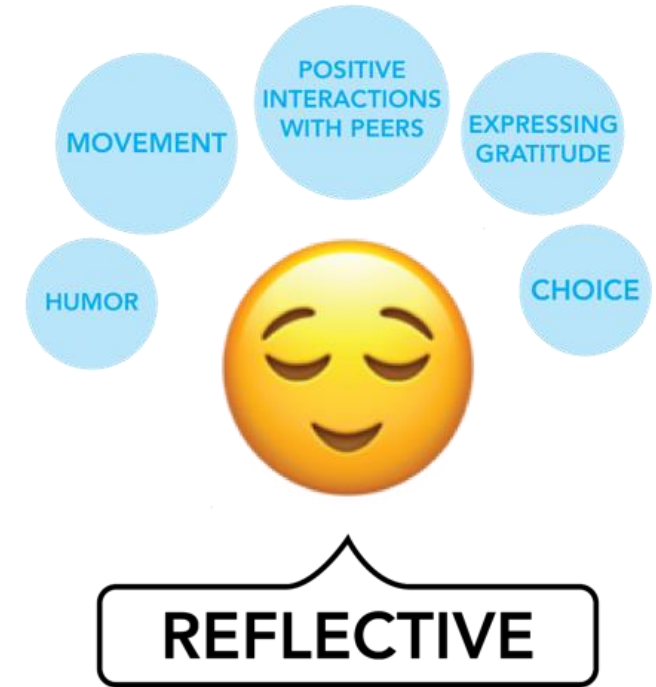
Whatever good things we  
**BUILD**  
end up building us

**Jim Rohn**  
*American Entrepreneur,  
Business and Personal  
Development Author*

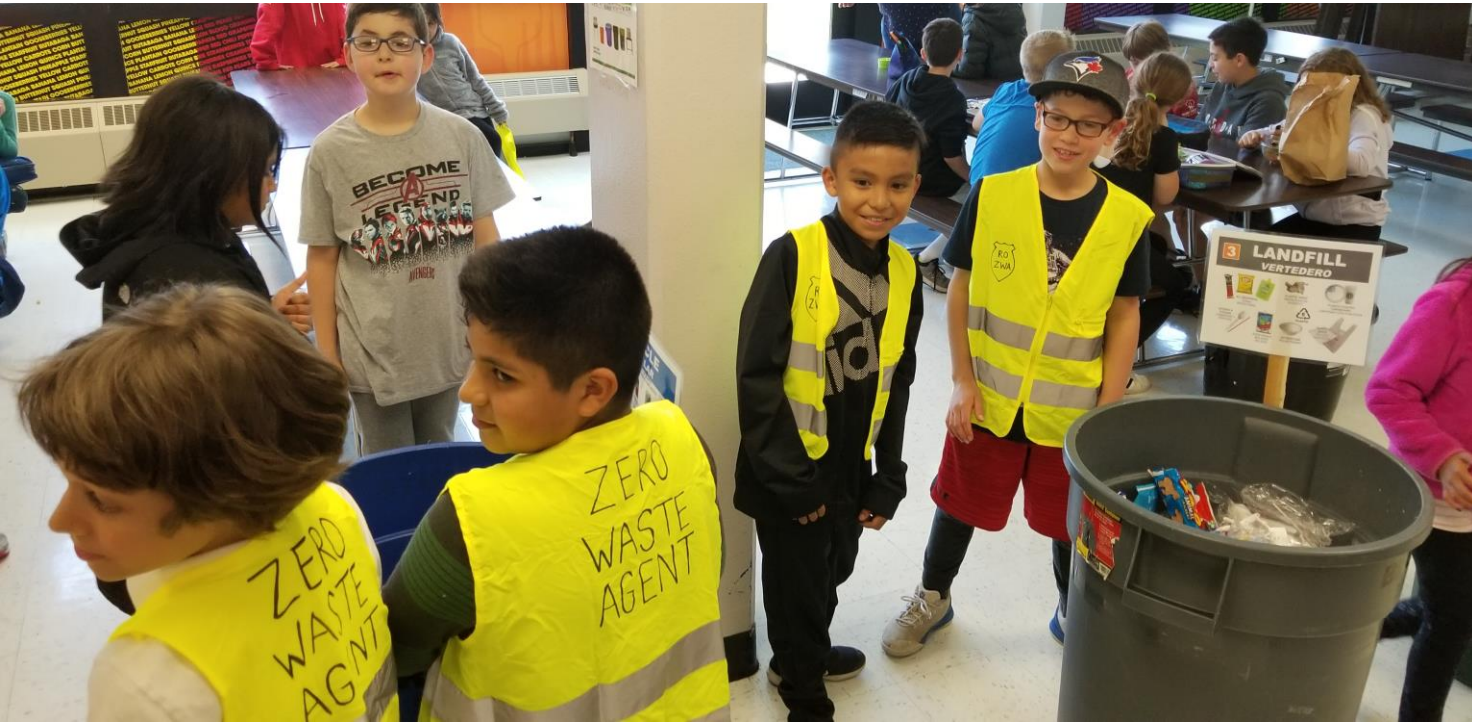




Fight, Flight, Freeze  
Brain Response



Thinking Brain  
Response







The **lunchroom** is one of the areas of greatest waste in a school and, therefore, **waste reduction initiatives in the lunchroom and kitchen** can have the most impact.

*Source: Seven Generations Ahead*

# The problem with food waste in schools

- Over 7 billion school meals are served each year in the U.S. and much of that food is going to landfills rather than nourishing students
- 1 in 9 children in Illinois are food insecure
- Methane is created when food decomposes in a landfill
- ReFED estimated that uneaten food in K-12 schools contributed to the equivalent of 2.89 million metric tons of CO<sub>2</sub> in 2019

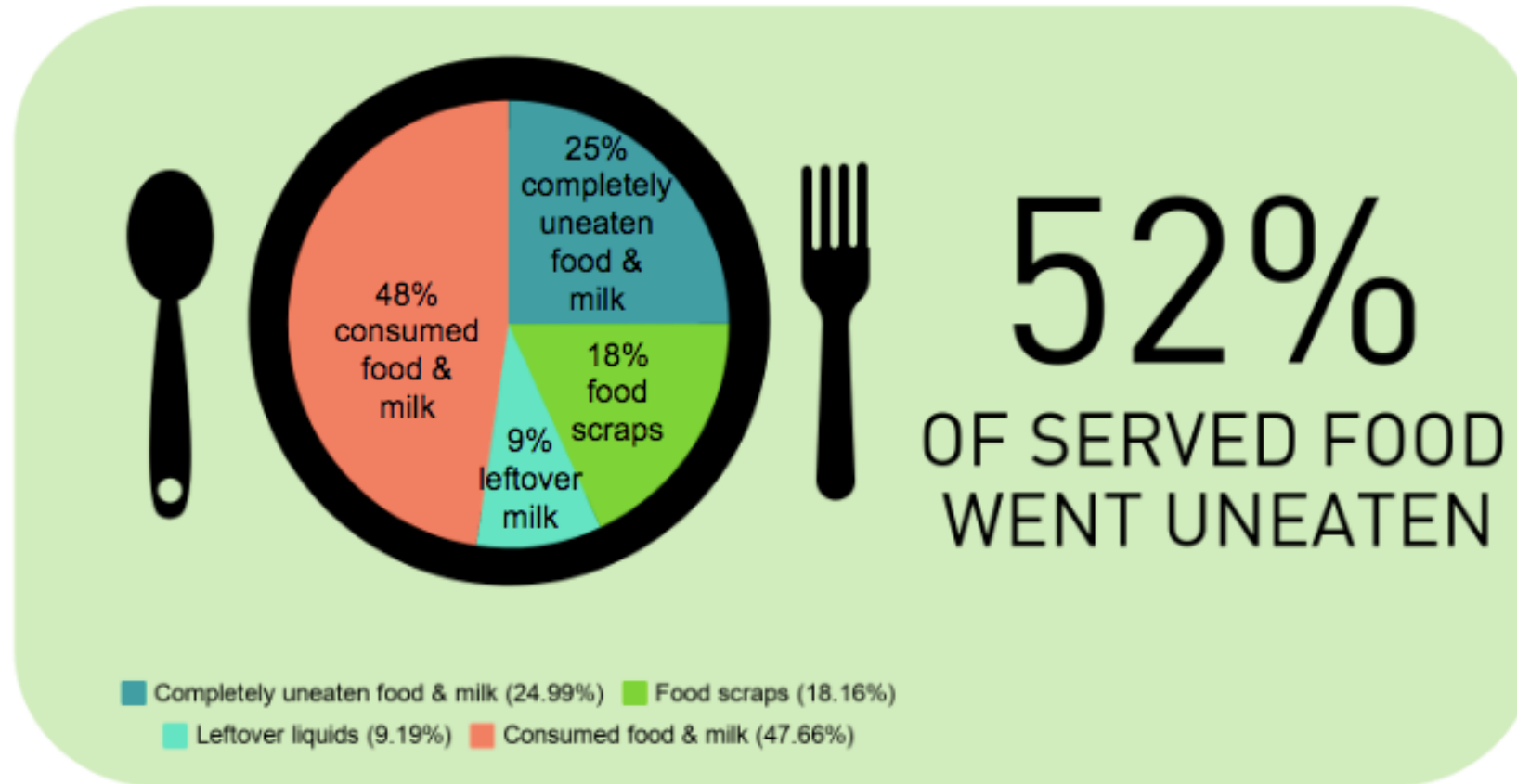
## Wasting food also wastes:

- Water and energy used in farming, processing, and transporting the food
- Money spent on landfill disposal
- Labor along entire supply chain





# The food consumed vs. the food not eaten/partially eaten



# The problem with single-use plastics

- About half of all plastic produced is used once then thrown away - by design
- The US generates the most plastic waste of any country in the world:  
**42 million metric tons per year.**
- Certain chemicals found in plastics used for food service are harmful to human health
  - When plastic containers, trays, or water bottles are exposed to high heat, chemicals from the plastic leach more rapidly into the container's contents.
  - Children are especially vulnerable to these adverse health effects



# Single-use plastics in school lunches

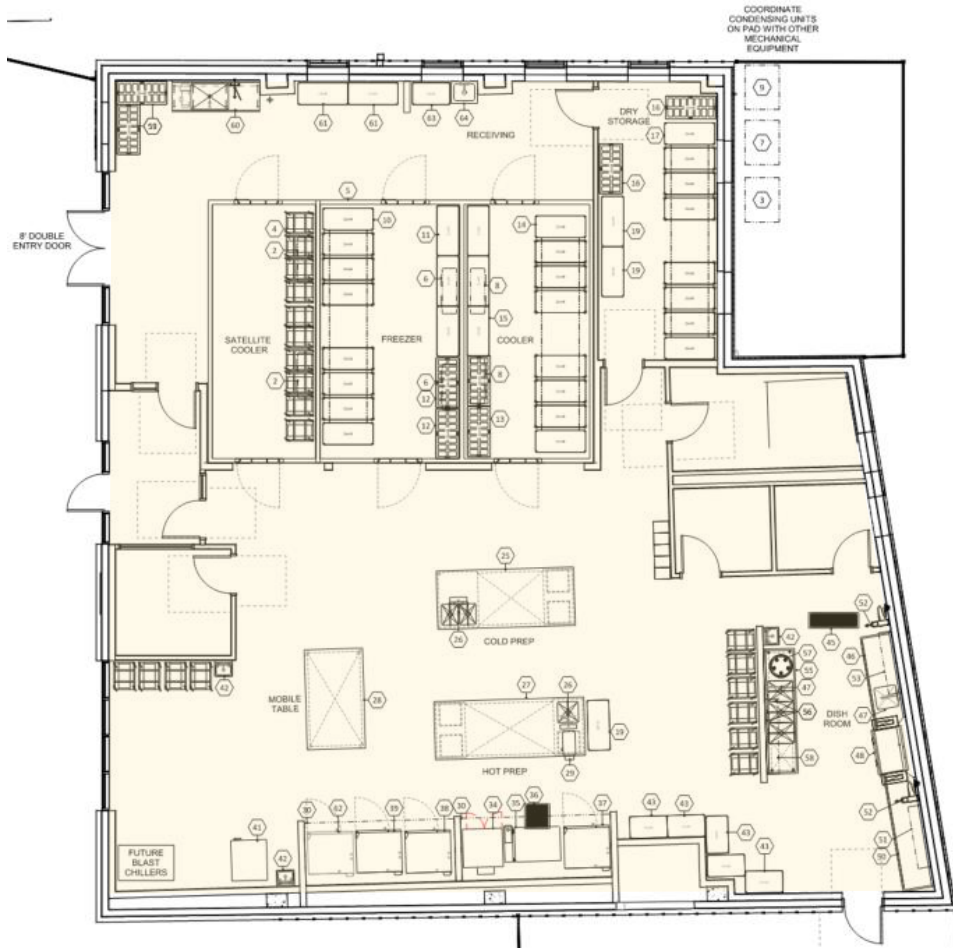


Photos: Seven Generations Ahead

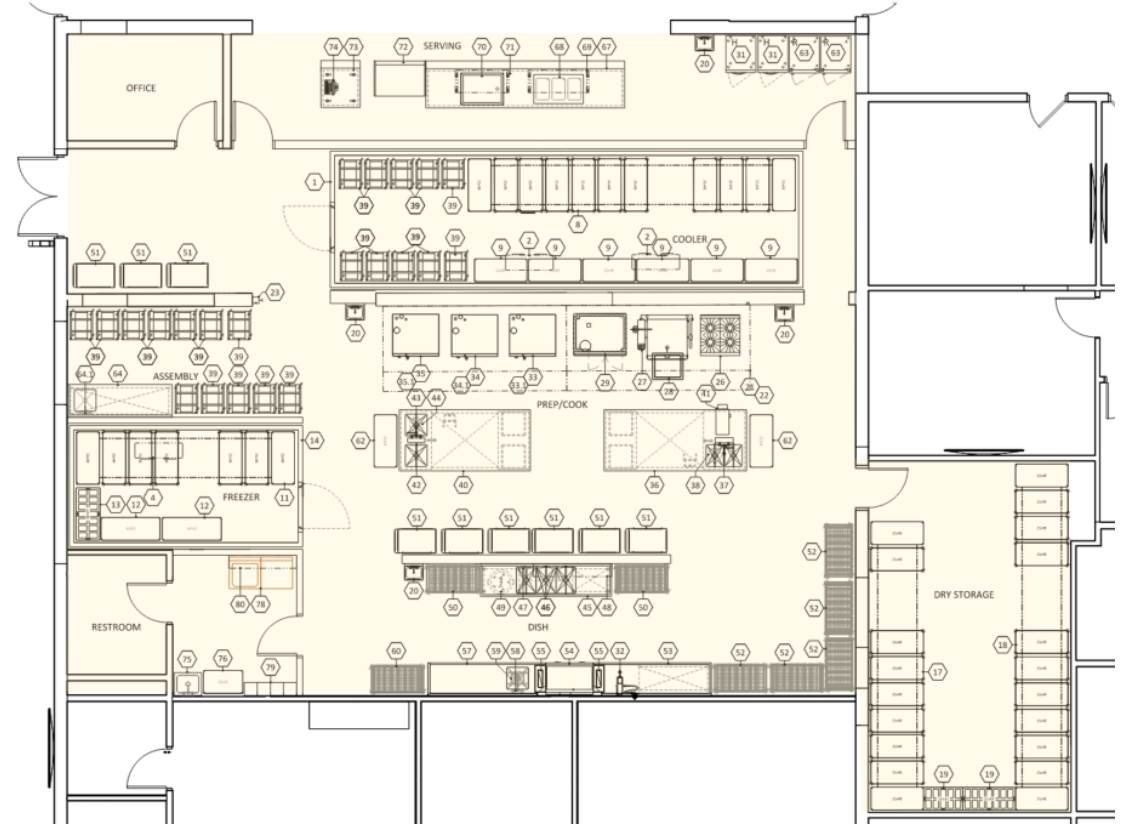






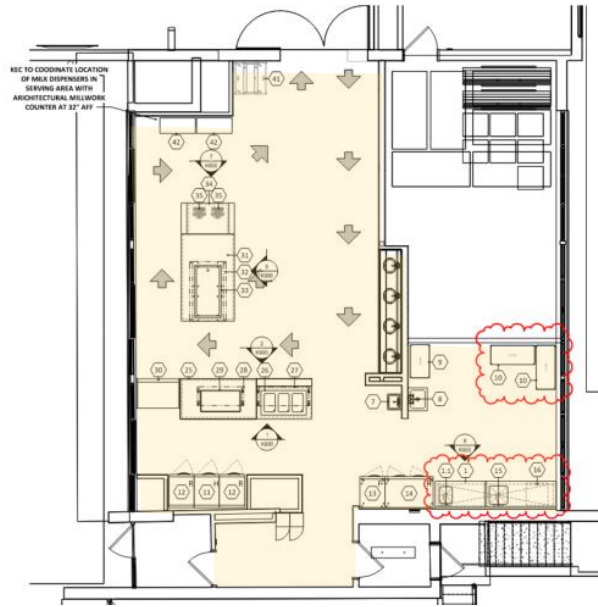


**New Central Production Kitchen**  
**3,900 SF**

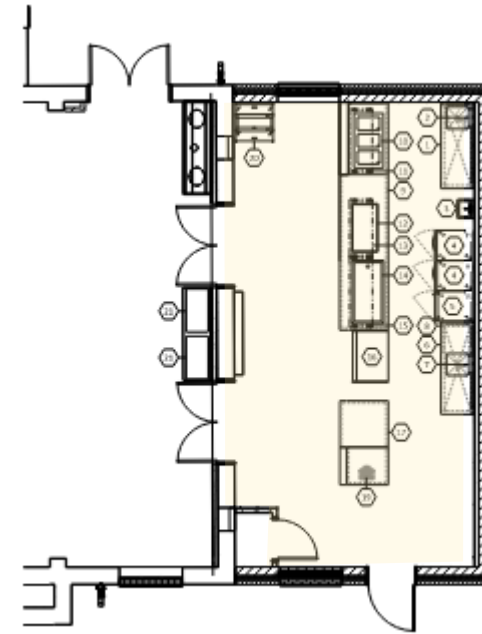


**Renovated Distributed Production & Serving Kitchen**  
**3,700 SF**



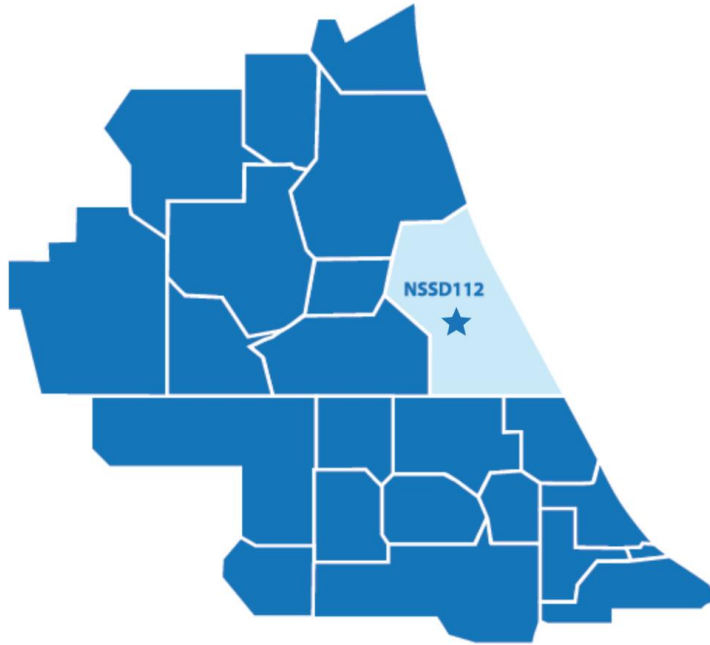


**Renovated Receiving & Serving Kitchen  
1,200 SF**



**Receiving & Serving Kitchen Addition  
750 SF**

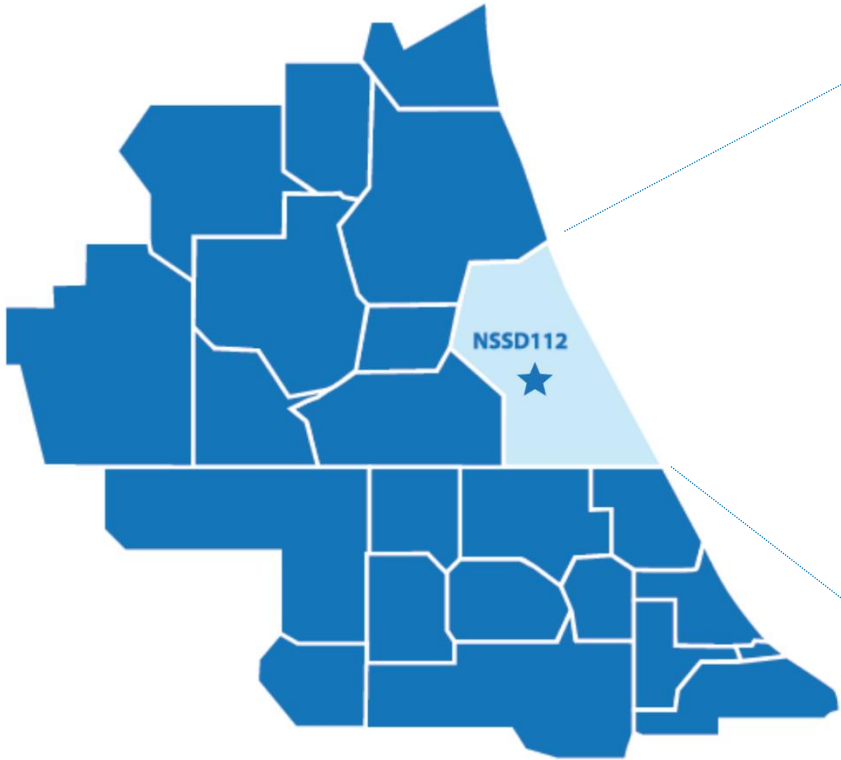
# Case Study: NSSD 112 District Boundaries & Quick Facts







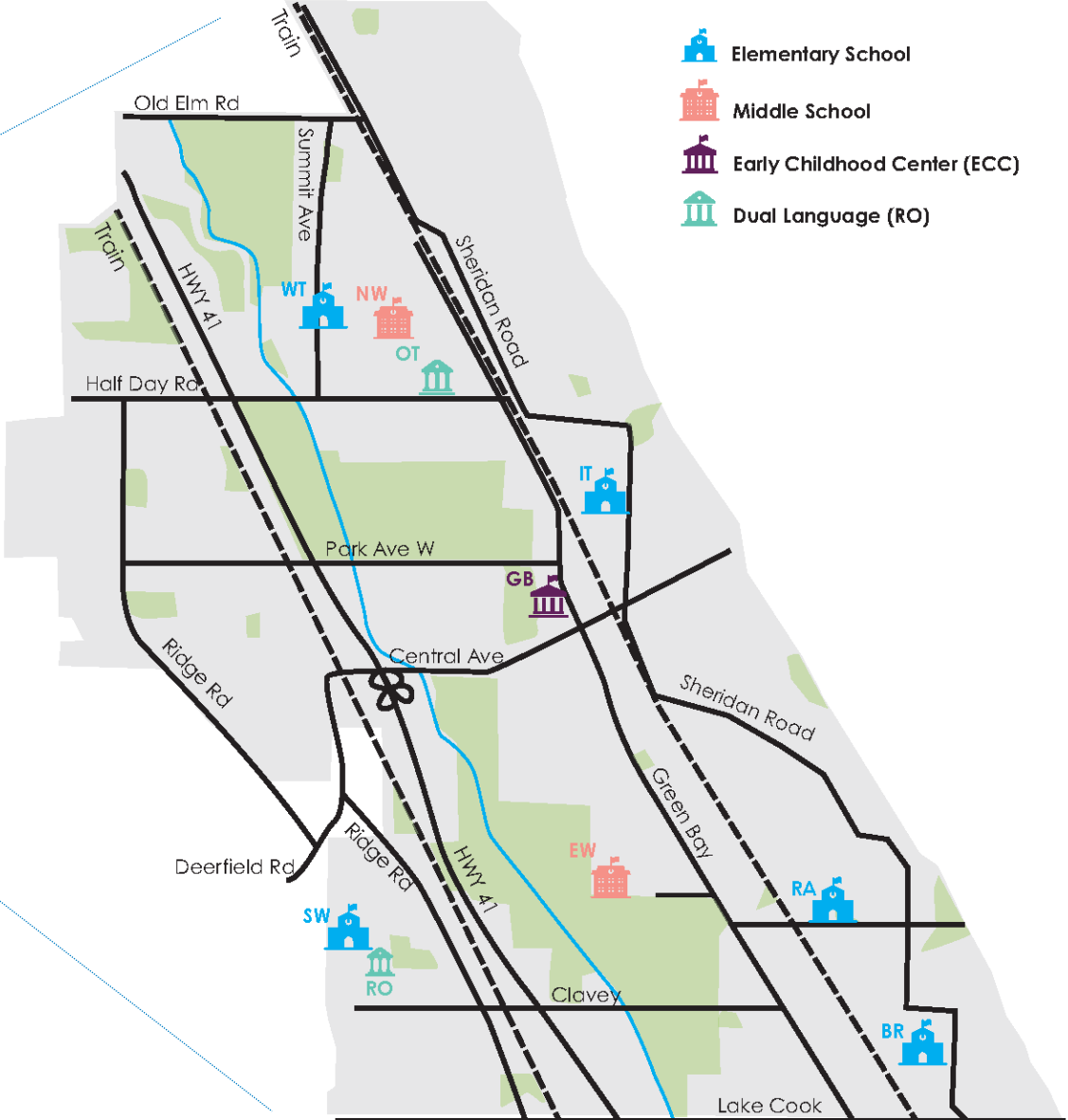
- K-8, Public School District
- 3,800 Students
- 333 Teachers
- 25 Administrators
- 1 Early Childhood Center
- 7 Elementary Schools
- 2 Middle Schools
- 635,000+ Sq. Ft. of Facilities Maintained



# District Boundaries



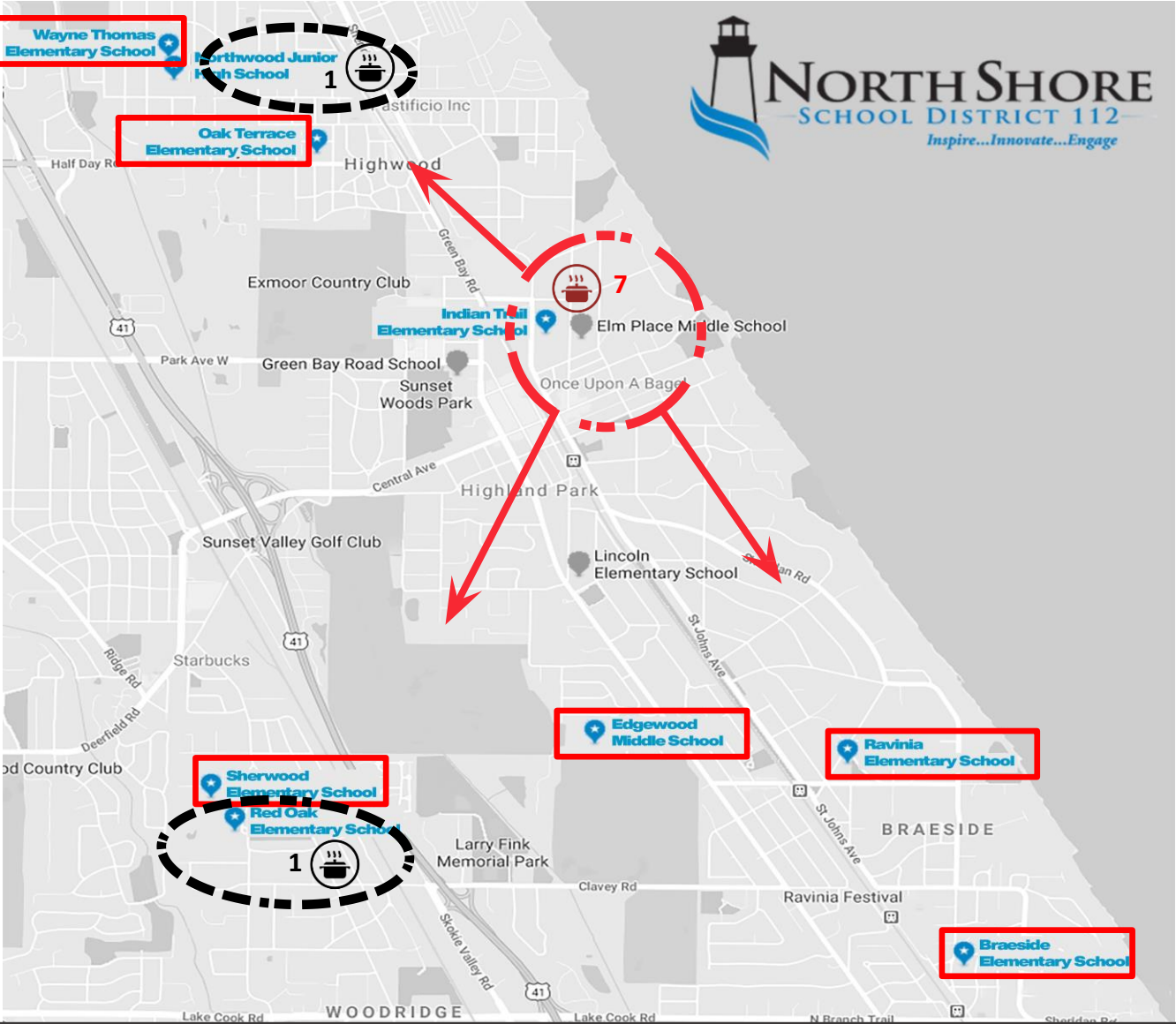
- KEY:**
-  Elementary School
  -  Middle School
  -  Early Childhood Center (ECC)
  -  Dual Language (RO)



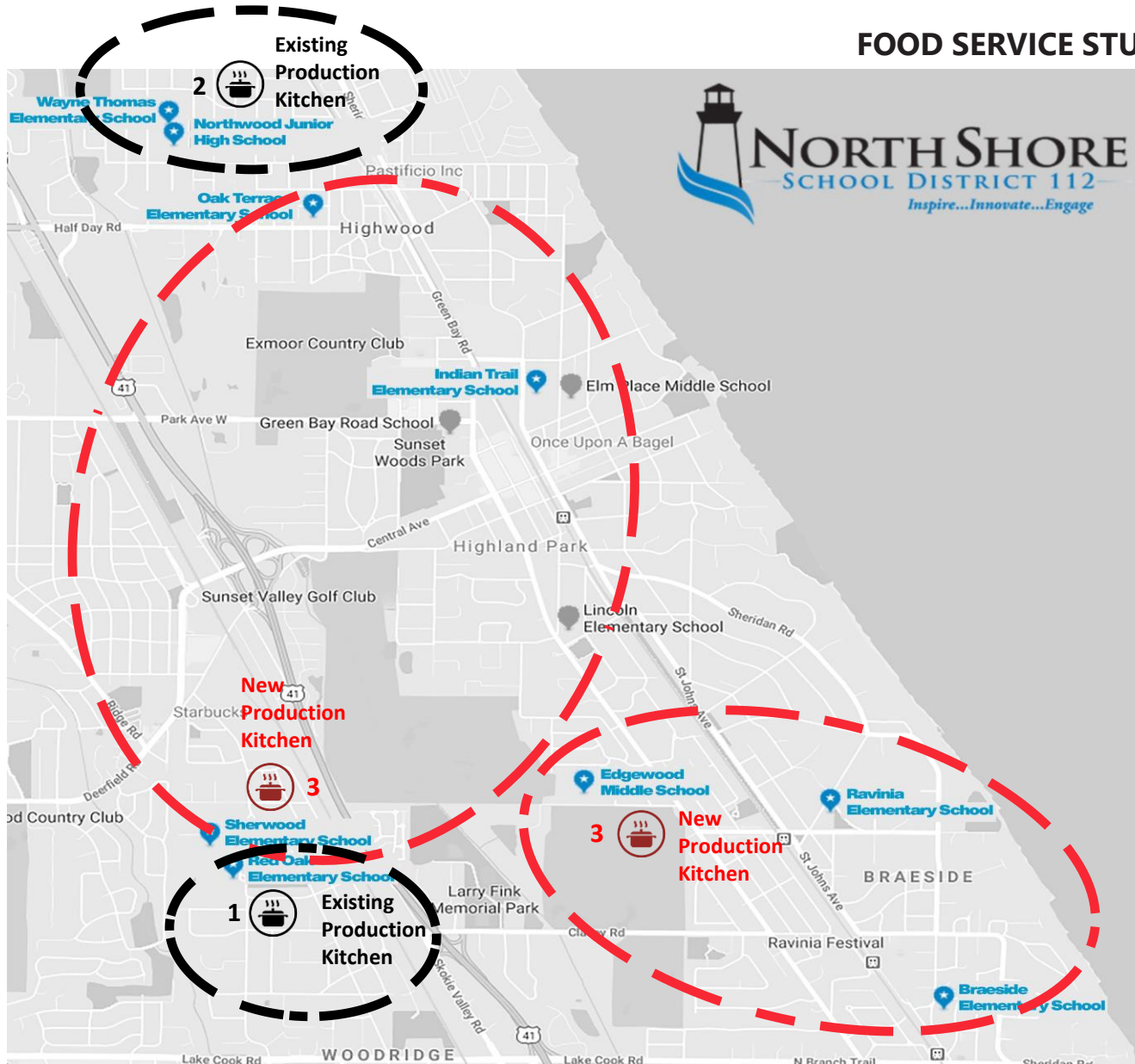


# FOOD SERVICE STUDY - DECENTRALIZED PRODUCTION KITCHENS





# FOOD SERVICE STUDY - DECENTRALIZED PRODUCTION KITCHENS







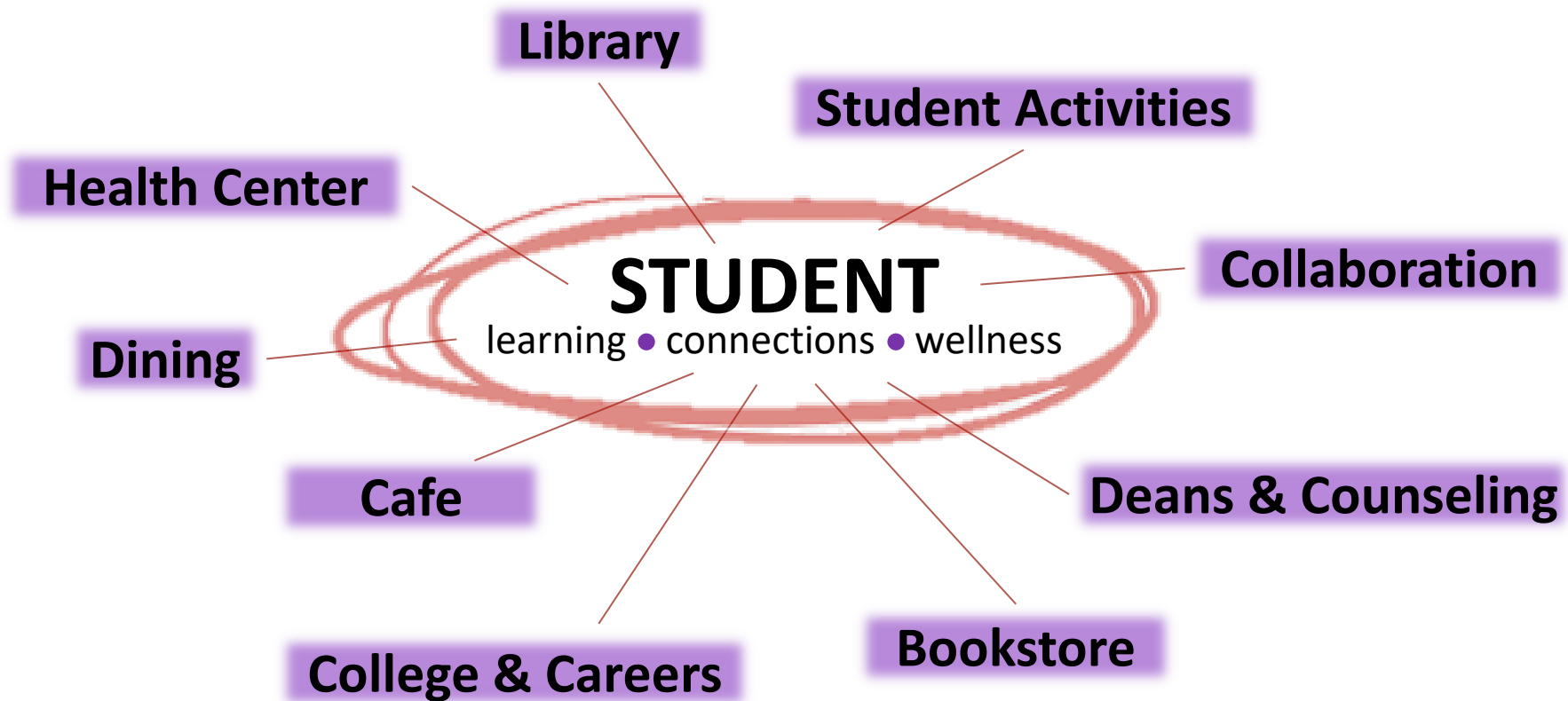
Dining Environments



**DINING / CAFETERIA**



**LEARNING COMMONS**







**LEARNING COMMONS**  
DOWNERS GROVE NORTH HS







# LEARNING COMMONS

NORTHWOOD MIDDLE SCHOOL

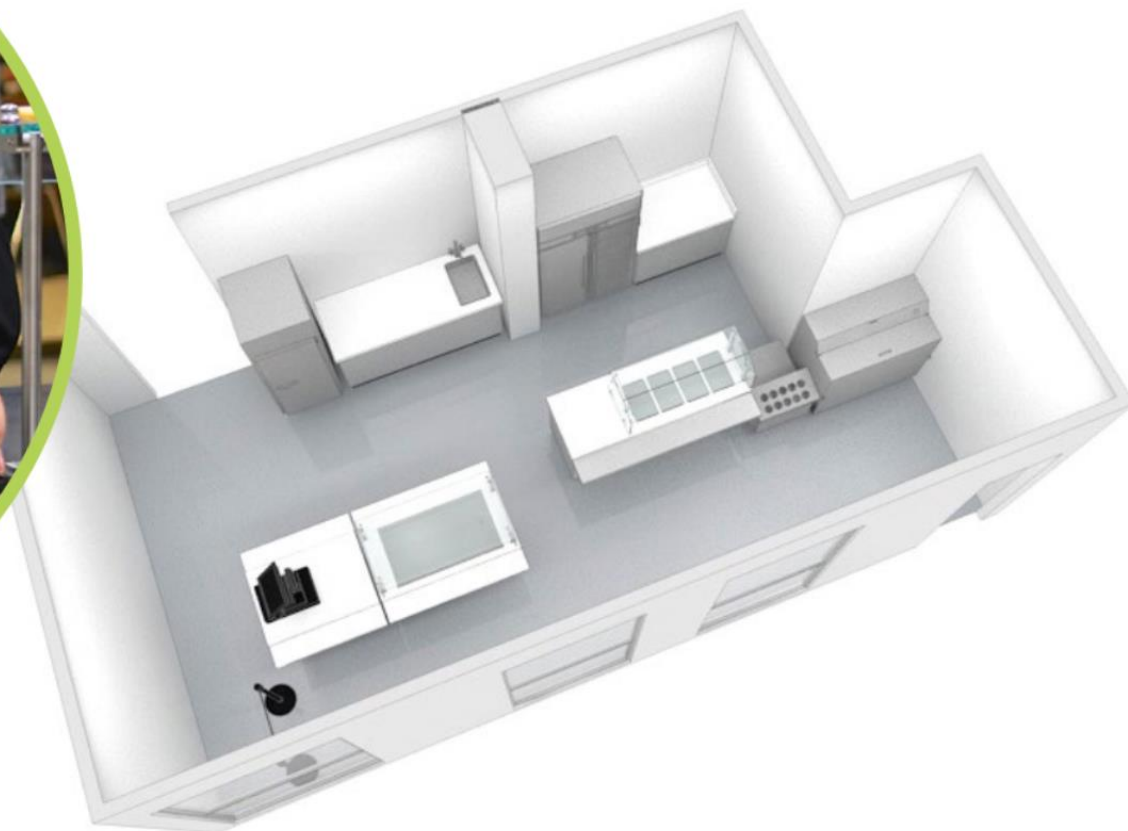




**Designing spaces and crafting choices that lead students to make healthier food decisions.**



*How Servery Design Influences Food Choices*

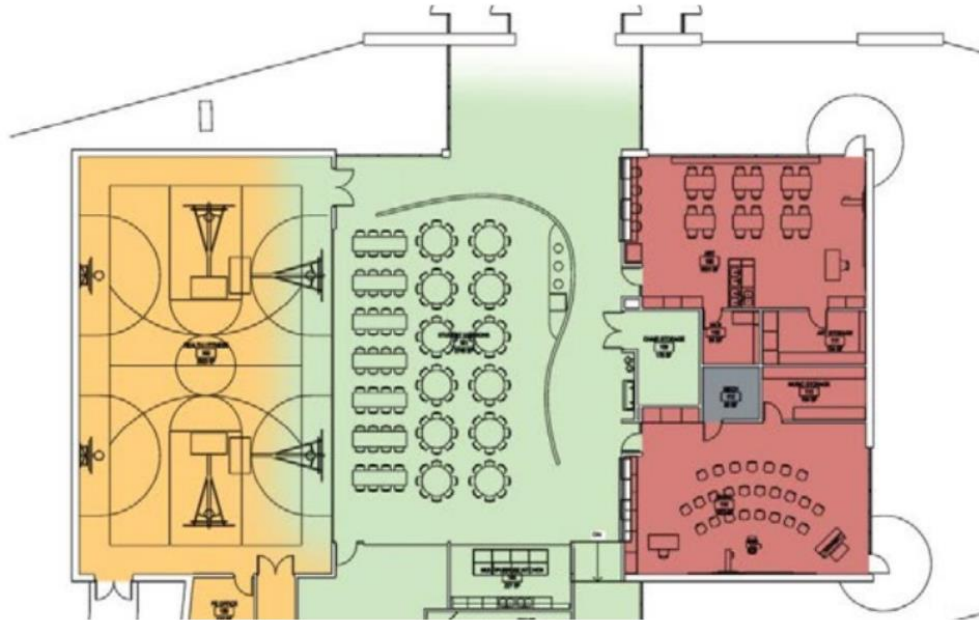






*Designing with schedule in mind....*

- **Kitchen size/serving to meet peak serving needs**
- **1/3 of student population**
- **Increased time for meals**
- **Socialization & digestion**
- **All students through serving lines in 12-14 minutes**
- **10 minutes sitting down for breakfast/20 for lunch**





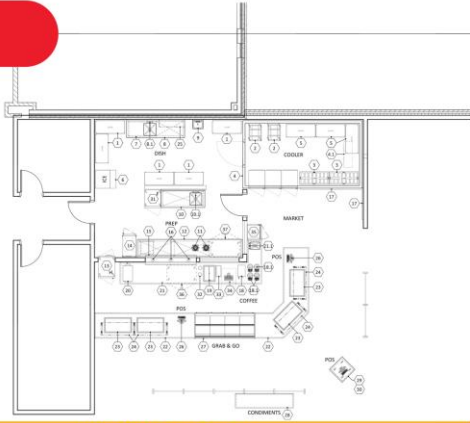


Renovation & New Construction





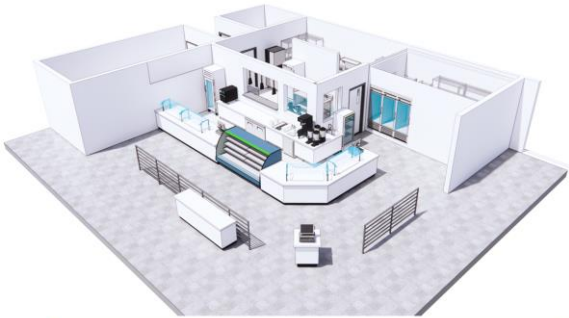
## Drawing



NOBLESVILLE HIGH SCHOOL



## 3D Rendering



NOBLESVILLE HIGH SCHOOL



## 3D Rendering



NOBLESVILLE HIGH SCHOOL



# Lunchroom sorting station







Waste Stations







Waste Stations







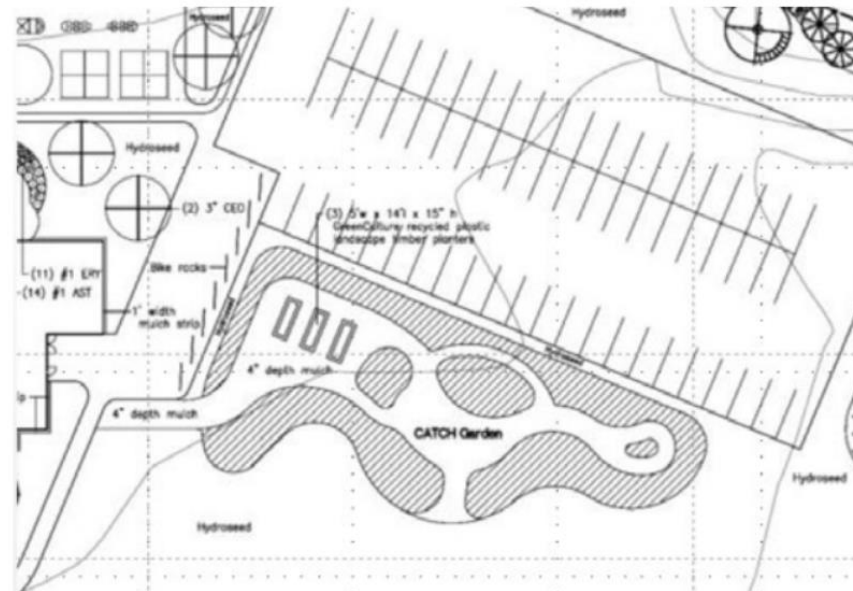
Waste Stations





## *Garden to cafeteria....*

- **Flexible design for multiple uses**
- **Spaces for educational meal preparation**
- **Onsite school gardens**
- **Observable food preparation areas/action stations**















Ravinia Greenhouse



Indian Trail Garden Learning Center



# GARDEN COMPOST COMPOST PARA EL JARDÍN

FRUIT & VEGGIE SCRAPS ONLY  
*SOLO RESTOS DE FRUTA Y VERDURAS*





Seven  
Generations  
Ahead



## Farm to School Network

Farm to school is a people-powered movement that seeks to strengthen the connection communities have with fresh, healthy food and local food producers. There are three basic elements to farm to school:

- Local Food Procurement  
Local foods are purchased, promoted and served in the cafeteria, as snacks or taste-test
- Food & Nutrition Education  
Students participate in experiential education activities related to agriculture, food, health or nutrition
- Edible Gardens  
Students engage in hands-on learning through gardening

Cafeteria Design - **Health**

- **Design for visual, thermal & acoustical comfort**
- **Connect to outdoor spaces**
- **Locate cafeteria near main entrance points**
- **Hand washing stations**
- **Small round, rectangular tables, high tops = Promote socialization**

*Images: Regina cafeteria/commons rendering*





# Healthy Cafeteria Environment



- Policy
- Toxicity
- Student Health

Reusables  
Air Quality  
Electrification  
Cleaning  
Food



<https://ceh.org/?s=reusables>

## Environment

# Two changes could nearly halve carbon footprint of US school lunches

US schools could nearly halve the carbon emissions of the lunches they offer by only serving beef once a month and replacing the highest emitting meal a week with a vegan option

By [Grace Wade](#)

3 August 2023

<https://www.newscientist.com/article/2385762-two-changes-could-nearly-halve-carbon-footprint-of-us-school-lunches/>

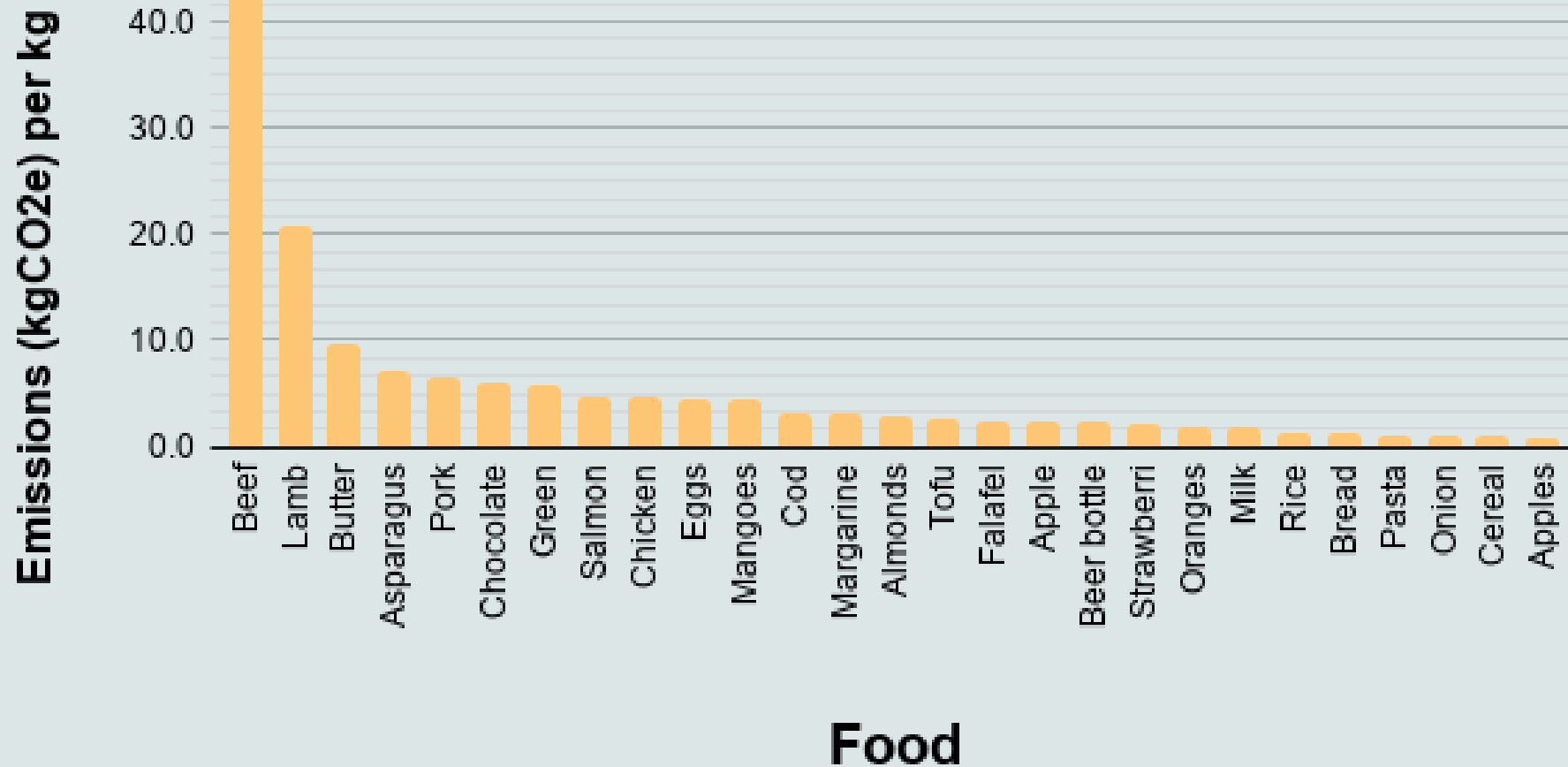


- Greenhouse gas emissions associated with food
- Energy use of building systems

***“US schools could nearly halve the carbon emissions of the lunches they offer by only serving beef once a month and replacing the highest emitting meal a week with a vegan option.....”***

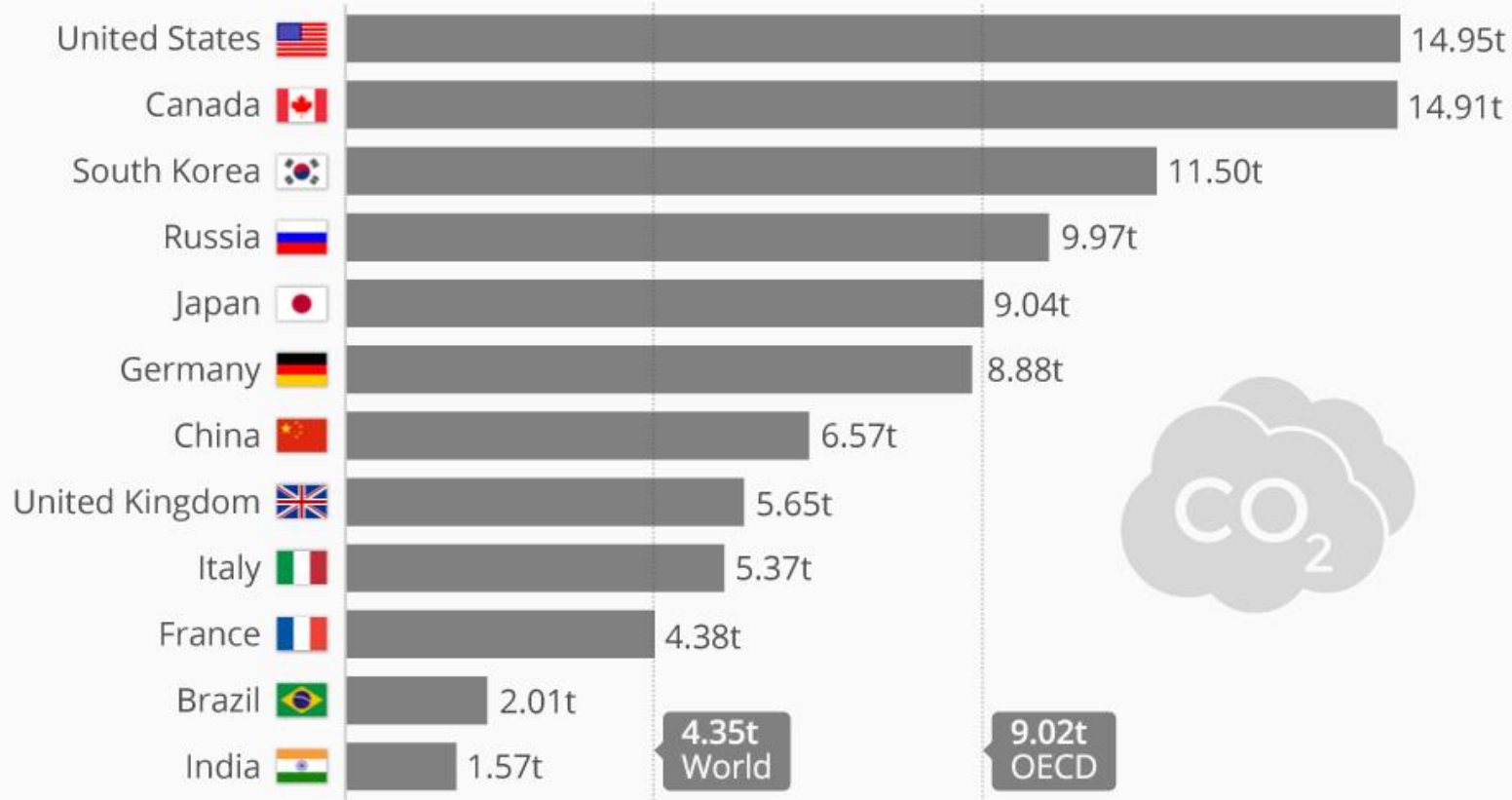


# Average emissions per kg food



# The Global Disparity in Carbon Footprints

Per capita CO<sub>2</sub> emissions in the world's largest economies in 2016\* (in metric tons)



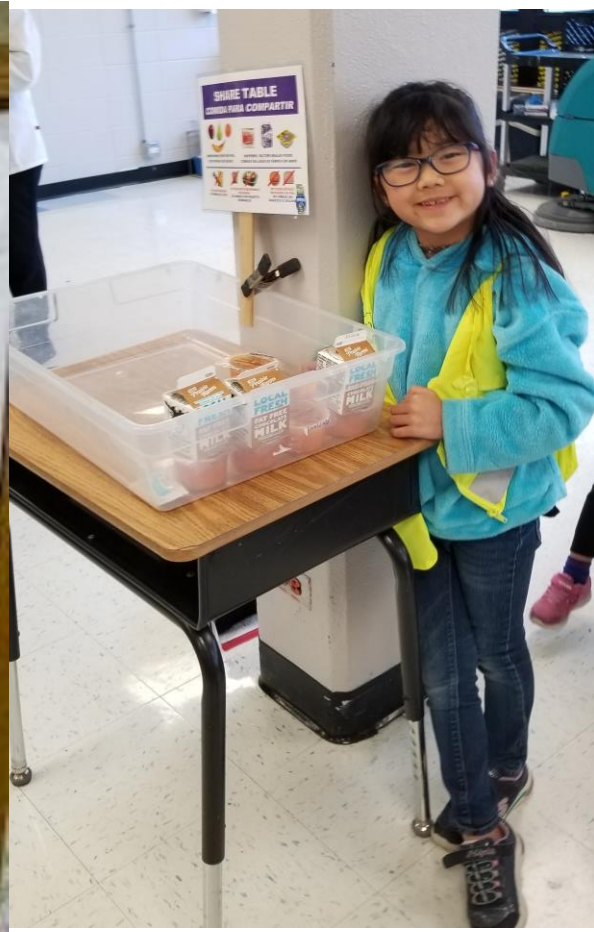
CC BY ND  
@StatistaCharts

\* countries chosen based on 2017 nominal GDP

Sources: International Energy Agency, International Monetary Fund

statista













## *Guide to Green Teams*

### GREEN TEAMS AS PART OF SCHOOL SUSTAINABILITY

As part of your school's annual sustainability plan, each NYC public school is required to have a Green Team. The purpose of the Green Team is to create a group of dedicated school leaders and students who are committed to promoting and implementing the school's sustainability plan (submitted annually to NYC's DOE). Green Teams are an essential part of any school's efforts to ensure that recycling becomes ingrained into a school's culture. While outreach to the general student population should be ongoing, having a green team provides a forum for interested students to implement recycling-related projects. Green Teams can be organized in a number of ways, and their benefits include involving students in hands on environmental learning and fostering creativity and organization to achieve environmental goals.



<https://www.grownyc.org/files/rcp/GreenTeamGuide.pdf>



## Farm to School's Core Components

- Strengthen the connections that communities have with fresh, healthy food and local producers
- Procurement
  - Local food in taste tests, snacks and schools meals
- Education
  - Learning about agriculture, food, health & nutrition
- School Gardens
  - Hands-on engagement









Seven  
Generations  
Ahead



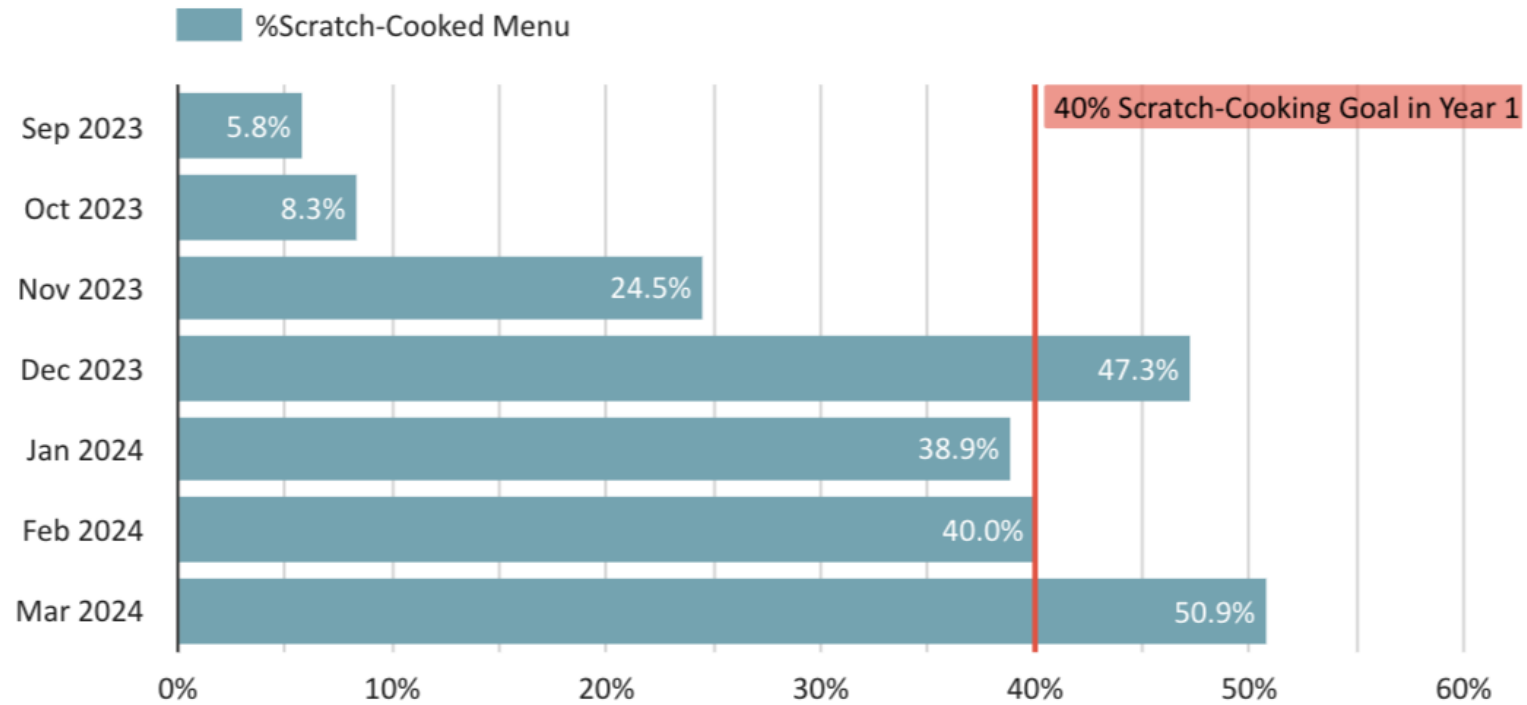
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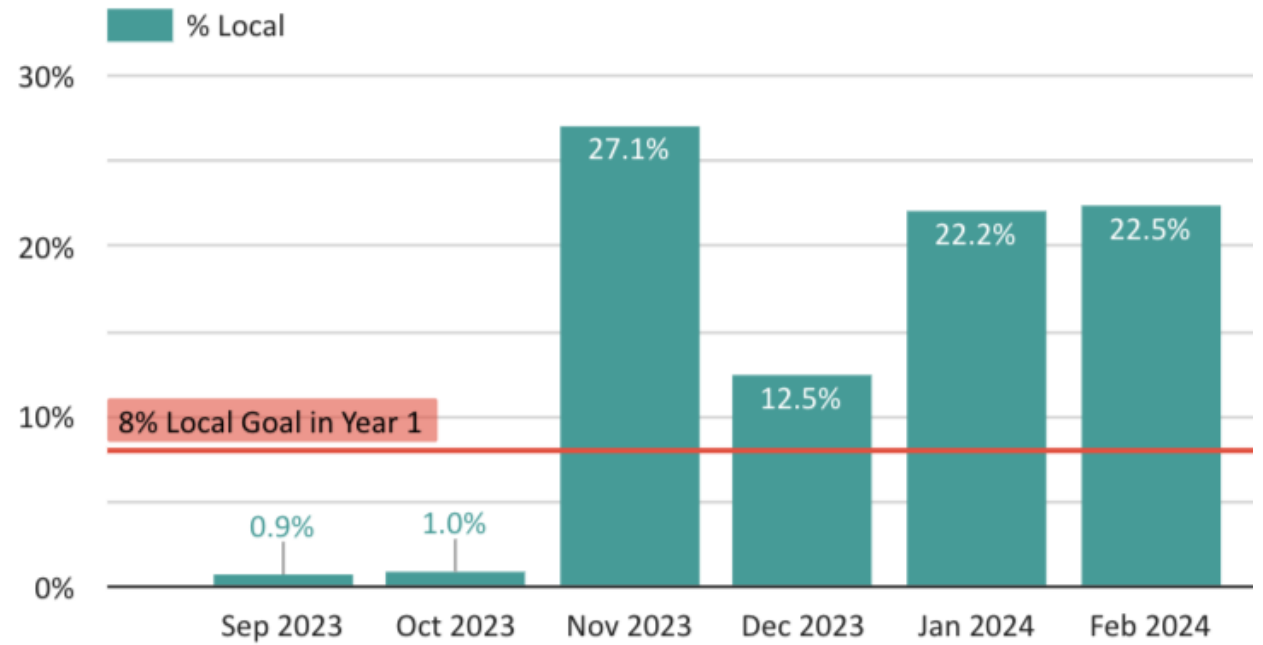


## % Scratch-Cooked Menu





## Percent Illinois Local Purchases EXCLUDING Milk Purchases (Prairie Farms)





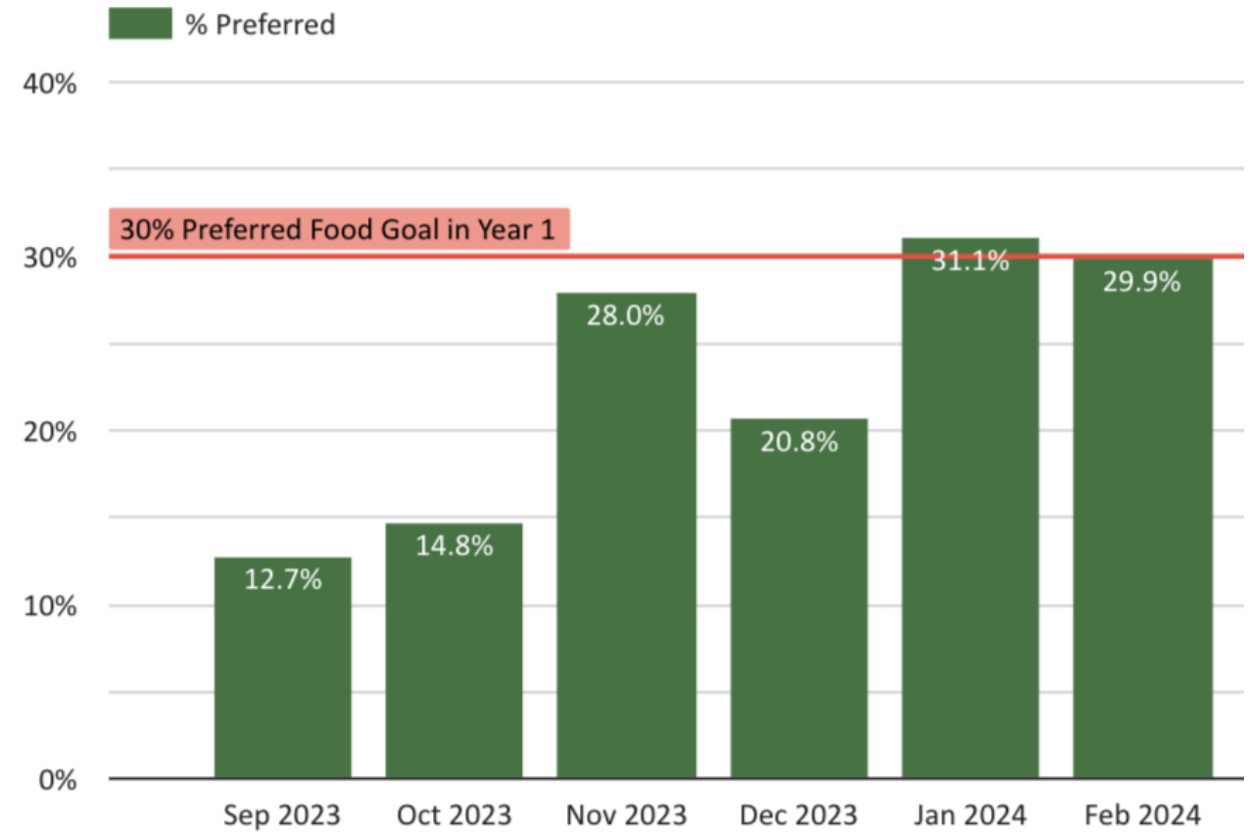


Real Food



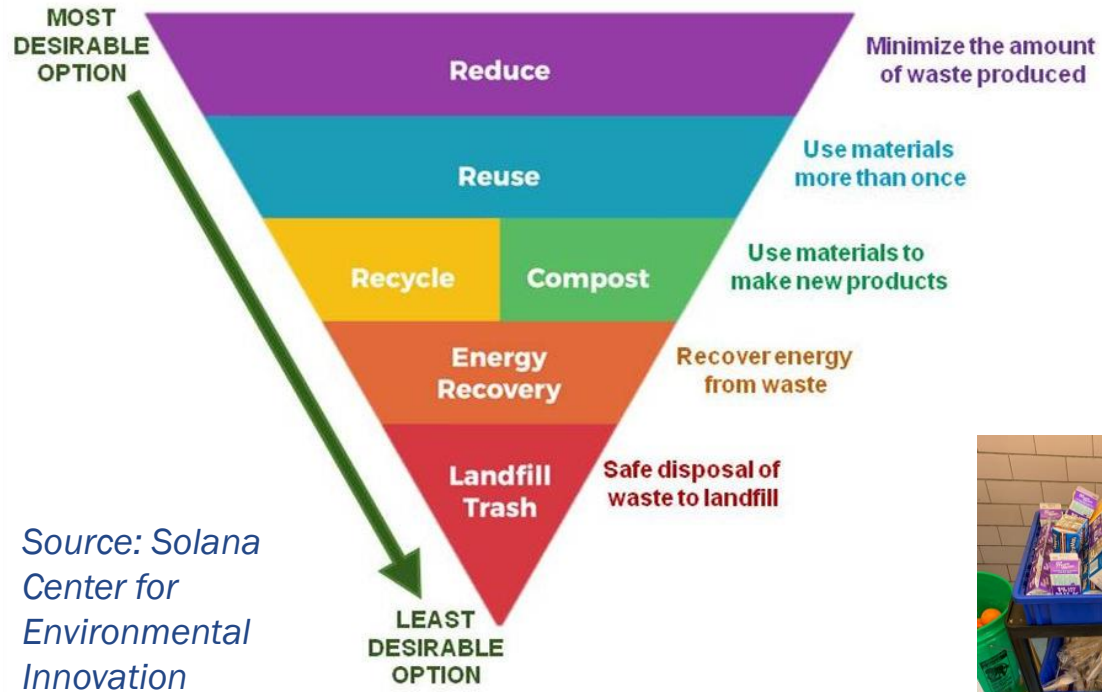


## Percent Preferred Purchases





# Zero Waste Hierarchy



**Eliminate individual condiment packets**



**Reusable food ware**



**Share Tables**



**Unbundle spork packets**



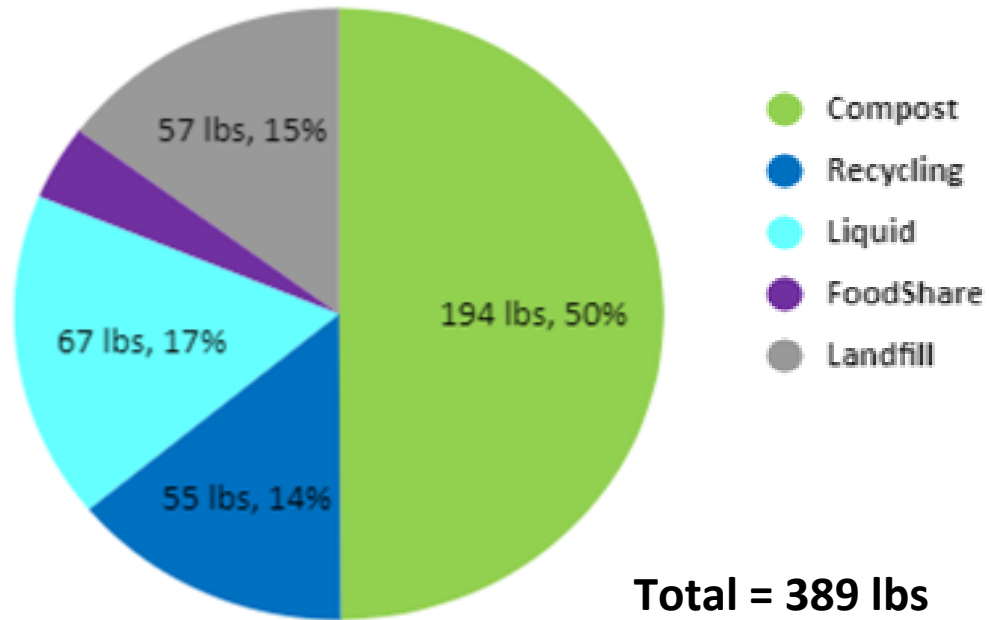
**Reusable trays**

Source: Seven Generations Ahead



# Commercial composting and recycling

Composting and recycling in the lunchroom can divert up to 90% of materials from the landfill



**Total = 389 lbs**

Source: Seven Generations Ahead







Seven  
Generations  
Ahead



# Zero Waste Schools Program

SGA works with school staff and students to shift operations and minds towards generating zero waste through **source reduction, recycling, composting, and food recovery.**

- Help schools plan effective waste reduction strategies
  - Zero waste kitchens
  - Reusable food ware
  - Minimize plastic use
  - Minimize food waste
- Create a Zero Waste Plan for the district
- Provide on-the-ground support for operational changes
- Educate students and staff about the How and Why of going zero waste

# Food waste reduction

- 'Offer vs Serve' method
- Scheduling
  - Longer seated lunch time
  - Recess before lunch
- Menu planning & food preparation
  - Student taste tests
  - Serve cut fruit, instead of whole fruit
  - Measuring food waste in the kitchen
- Share Tables
- Provide water to reduce milk waste





# Food Waste Reduction Toolkit for Illinois Schools



- Is a comprehensive resource to help schools take action to reduce wasted food
- Identifies the main sources of wasted food
- Provides strategies that are relatively quick and easy, as well as longer term, multi-step initiatives
- Includes case studies highlighting inspirational efforts in schools across Illinois
- Links to lots of resources

<https://sevendgenerationsahead.org/our-work/zero-waste-schools/food-waste-reduction-toolkit/>







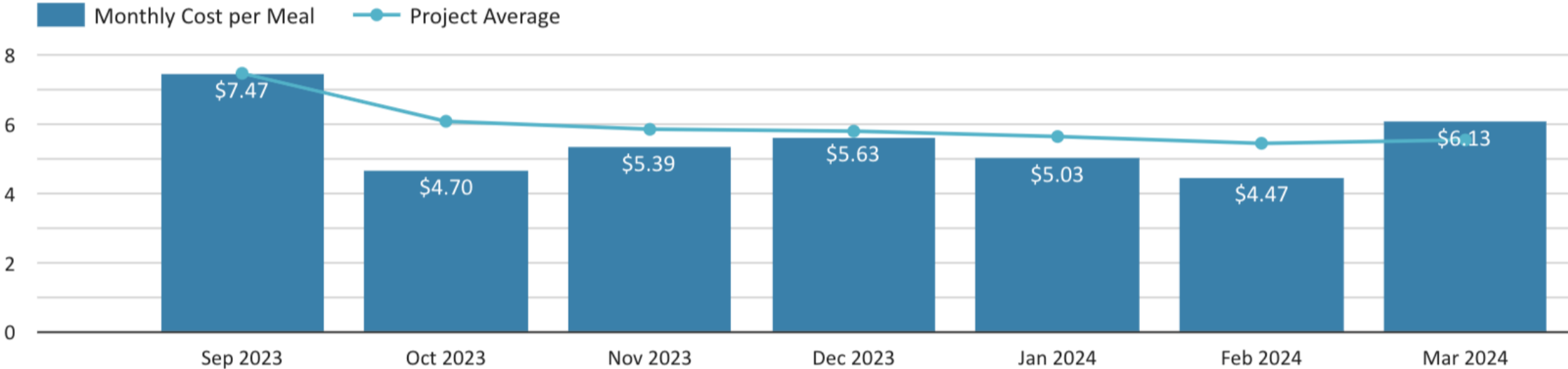
## Reuseables & Plastics Elimination







### Combined Food and Labor Cost per Meal





[School Nutrition Foundation Equipment Grants](#)

[The Lunchbox: Bulk Milk Dispensers](#)

[USDA School Lunch Equipment Grant](#)

[Whole Kids Foundation Salad Bar Grant](#)

[Plastic Free Restaurants](#)

Subsidize the cost for schools to switch from plastic to reusable food ware.

[Patrick Leahy Farm to School Grant Program](#)

[Farm to School Funding](#)

[School Garden Funding](#)

[Community and Miscellaneous School Grants](#)

## [Illinois Farm to School Network](#)

Supports farm to school and farm to early care and education efforts in Illinois while serving as a liaison for information, resources, needs and opportunities with the National Farm to School Network.

## [Center for Green Schools](#)

Advances green schools and provides the resources needed to create sustainable, healthy, resilient, and equitable learning environments.

## [Cafeteria Culture](#)

Provides resources to teach innovative environmental education that fosters youth-led solutions by merging citizen science, civic action, video production and the arts.

## [Chef Ann Foundation](#)

Empower schools nationwide with the tools, training, resources, and funding they need to serve healthy meals.

## [Center for Environmental Health](#)

Work with parents, communities, businesses, workers, and government to protect children and families from toxic chemicals in our homes, workplaces, schools, and neighborhoods.





# Presenters

## MODERATOR INFO:

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